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### PART III

## THE SPREAD IN 1929 BETWEEN THE VALUES OF FINISHED COMMODITIES AT PRODUCERS' PRICES AND AT THEIR COST TO ULTIMATE CONSUMERS

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### PART III

## THE SPREAD IN 1929 BETWEEN THE VALUES OF FINISHED COMMODITIES AT PRODUCERS' PRICES AND AT THEIR COST TO ULTIMATE CONSUMERS

### PREFACE

THE next step in the analysis is the transition from the annual volumes of finished commodities and servicing, destined for domestic consumption, at prices charged by producers, to the same volumes measured at their cost to ultimate consumers. Servicing and repairs rendered by manufacturing establishments do not call for treatment at this stage; it may be assumed that their value, as shown in the Census of Manufactures and estimated by us for intercensal years, represents largely their cost to the ultimate holders of the durable goods.<sup>1</sup> But in order to measure the flow of finished commodities at the cost to ultimate consumers we must first estimate the value of transportation and distributive charges. Since, as will appear presently, these charges are substantial, their inclusion produces important quantitative effects on the final estimates.

The large spread between producers' prices and the cost to ultimate consumers makes it especially deplorable that data relevant to this stage of the analysis are meager. The first comprehensive census of distribution for the United States was taken for 1929; in addition to wholesale and retail trade, the distribution of sales of manufacturing plants was surveyed. A second census of wholesale and retail trade was taken for 1933, but its extensive, and particularly its intensive, coverage were less than that attained for 1929. Another census of trade was taken for 1935, but the results were not published until 1937 and were not available at the time the major part of

the present study was being prepared. For other years the data on distributive trades are scattered and restricted samples, which become sparser as one goes back to the early years of the post-War period. For transportation charges the only comprehensive data available for many commodities are freight charges on steam railroads, published by the Interstate Commerce Commission for 1928, 1930, 1933, and with somewhat less detail for 1922.

The contrast between the wealth of information for 1929 and the other years in the period made it advisable to arrange the transition from the flow of finished commodities in producers' prices to their flow at the cost to ultimate consumers in three steps, presented in Parts III, IV, and V. Part III is confined to 1929 data and attempts to measure, on the basis of the extensive information available for that year, the total spread between the value of finished commodities at producers' prices and their value at the cost to ultimate consumers. Part IV is a survey of the available information on transportation and distributive charges for years other than 1929, primarily with a view to establishing whether these charges, when expressed as percentages of costs or final values, are variable over time; and if so, what changes they have undergone during the period studied. Part V combines the information in Parts III and IV, and arrives by a series of approximations at an estimate of the annual value of finished products flowing into domestic consumption, at cost to their ultimate consumers.

Part III traces the flow of finished commodities from their producers through the channels of distributive trade during 1929. First, the distribution of sales of finished commodities by their pro-

<sup>1</sup> This statement does not hold of the servicing of consumers' durable goods, which may be done through a middleman and for which, therefore, manufacturers' charges do not necessarily represent total cost to consumers. But servicing of consumers' durable commodities accounts for a minor fraction of the total value of servicing and repairs rendered by manufacturing establishments.

ducers is studied: the portion going directly to ultimate consumers, to retailers or to wholesalers is estimated. Second, the flow to and from wholesale trade is analyzed: the flow to wholesale trade from producers or imports is compared with the flow from wholesale trade into exports, direct sales to ultimate consumers, or sales to retailers. Third, the flow to and from retailers is studied: the flow to them from producers and wholesalers is compared with the flow from them to ultimate consumers. Fourth, we juxtapose the total flow of finished commodities into domestic consumption, at producers' prices, against the total movement to ultimate consumers, at the cost to them, flowing either from producers or wholesalers, or from retail trade; and thus obtain the total spread in 1929 between the value of finished commodities at the door of the producing establishment and their cost to ultimate recipients.

#### 1 ALLOCATION OF PRODUCERS' SALES AND TRANSPORTATION CHARGES

Beginning the analysis at the point where finished commodities leave manufacturing or other producing establishments, it is essential, as the first step, to observe into what channels they go directly. Since finished products alone are dealt with, those which move to other establishments to be used in business processes are omitted. On the other hand, finished products that do reach ultimate consumers, via either wholesale or retail trade, or both, are included. Thus producers' sales of finished commodities are divided into those going directly to ultimate consumers, to wholesale trade, to retail trade.

This apportionment, presented in Table III-1, is based largely upon the Census data on the distribution of sales of manufacturing plants. For the small groups of non-manufactured finished commodities, except coal, we assumed that all sales went through wholesale channels; for coal, the availability of specific retail prices made it unnecessary to trace the flow in the several stages of commodity circulation. The values in column 2 are of total domestic sales, not of finished commodities, sold and imported, destined for domestic consumption. The assumption that the phase of commodity circulation represented by imports and exports takes place exclusively at the wholesale stage<sup>2</sup> was forced upon us by the apportion-

<sup>2</sup> This is true with the exception of two minor groups—pleasure water-craft and aircraft—for which wholesale and retail channels could not be segregated. In Tables III-3 and III-4 the wholesale and retail stages are combined, and the entries made in Table III-4 under retail trade.

ment in *Distribution of Sales of Manufacturing Plants*, which applies to total sales rather than to sales adjusted for imports and exports. But this assumption does little violence to the facts. Wholesale trade being defined, as it is in the subsequent analysis, to include not only wholesalers proper but also manufacturers' wholesale branches and all agents and brokers, it may safely be stated that the preponderant part of imports and exports of finished commodities goes through the channels of wholesale trade.

The application of the apportionment in *Distribution of Sales* to total sales by minor commodity groups encounters two sets of problems. The first is the proper segregation of the share going directly to ultimate consumers. The place of the Census category 'sales to household consumers' in our classification is clear. But the category 'sales to industrial and other large consumers' may combine items that in our classification appear as finished and unfinished commodities. In a few industries in which the product was obviously finished, e.g., trunks, valises, and bags, this category was considered by us as revealing sales to ultimate consumers. In a few other industries whose products were mixed, all sales in this category that were in excess of the total value of unfinished as estimated by us in Part I were also considered finished. Note A to Table III-1 lists all the industries whose sales to industrial and other large consumers were interpreted in these two ways.

The second set of problems arose because an exactly corresponding allocation of manufacturing plant sales could not be found in the Census for every commodity. The Census allocations by industries, and within some industries for important subdivisions, were matched as closely as possible with our commodity estimates, but for some commodities no exactly corresponding allocation of sales could be found. For these commodities we used the allocation of sales for a closely related commodity or industry; and for several of these, unpublished Census allocations. These adjustments are described in detail in Note B to Table III-1, which presents also the various other modifications of industry and commodity totals made to obtain the best allocation of sales for each commodity or group of commodities. The commodities for which approximate allocation had to be used, i.e., excluding those adjusted by the use of unpublished Census data and such proper modifications of the totals as exclusion of interplant transfers, were not numerous; and, so

far as the commodity group totals were concerned, could not affect greatly the reliability of the apportionment (except for a few minor commodity groups, such as cotton goods, and printing and publishing).

The general results of the apportionment can be summarized for the major commodity class totals and the grand totals in columns 2, 3, 4, and 5 of Table III-1. Of the total sales of finished products, 37.7 billion dollars, the larger portion, about 56 per cent, went to wholesale trade; slightly less than one-third to retail dealers; and only about 12 per cent directly to ultimate consumers. But this apportionment varied significantly among the major commodity classes. In the perishable, semidurable, and consumers' durable classes, only a small fraction, from 4 to 6 per cent, went directly to ultimate consumers; in the producers' durable this share was nearly one-half. The large share of direct sales to ultimate consumers among producers' durable commodities is obviously a reflection of the large average size of purchases in this field and of the prevalence of production on order from the ultimate holder of the product. The share going to wholesale trade is largest in the perishable group, almost 70 per cent—a reflection of the great task the distributive system has to assemble the multitude of products from the numerous groups of scattered producers and distribute them to the numerous groups of scattered, small retail units.<sup>3</sup> The share going through wholesalers is also appreciable in the consumers' durable group, 55 per cent (as against less than 40 per cent in semidurable and about 40 per cent in producers' durable), largely because a major portion of the output of such industries as the passenger car, auto parts, radio, electric refrigerator, is handled through wholesalers or manufacturers' wholesale branches. The share of retail trade was largest in the semidurable group—slightly over one-half—a reflection of the importance of large retail units such as department stores and chain stores. Thus, the differences in the percentage allocation of total sales among the four major commodity classes, as shown in Table III-1, reflect clearly the well-known differences among these four groups of finished products in the organization of the distributive system.

In measuring transportation charges, the estimates for which have been added in columns 6, 7,

8, and 9 of Table III-1 to the value of finished products flowing from their producers into the three channels distinguished, the lack of adequate data forced upon us several assumptions. First, the cost of transportation was measured only at those stages of commodity circulation which have the producing establishment as their starting point. In the subsequent analysis, whenever the commodity moves from wholesalers to retailers, or from wholesalers or retailers to ultimate consumers, it was assumed that the cost of transportation was covered in the wholesale and retail mark-ups. Since in reality only part of this transportation cost is covered in wholesale and retail mark-ups, this assumption undoubtedly led to an underestimate of the final totals of transportation costs. Second, the transportation charges covered in Table III-1 are based on railroad rates for carload lots. Since the rates do not include the cost of trucking from the railroad station to the consignee; since they are lower than the rates for less than carload lots; and since they are applied to the transportation of commodities moved by truck, the rates for which are, if anything, somewhat higher than those for railroad transport, the total charges included are again somewhat less than the actual cost of moving the commodities from the producing establishments to the wholesalers, retailers, or ultimate consumers.<sup>4</sup> On the other hand, the resulting undervaluation of transportation costs may be partly offset if the commodity volume not reported in the available data on transportation charges is subject to less extensive transportation than the commodity volume included in the data.

The specific transportation charges added to the values for the several minor commodity groups in Table III-1 were based on the railroad freight charges for 1928, as published by the Interstate Commerce Commission. The matching of these charges, available for several of the more important commodities, with our commodity classification could be only approximate; it is described in detail in the note to Table IV-1. The total addition to the value of finished commodities in 1929 was approximately 2 billion dollars, or about 5.3 per cent of the value at the door of the producing establishments. The percentage added for each minor commodity group was the same for each channel of trade, there being no way to distinguish between the size of transportation

<sup>3</sup> This result was partly due also to our assumption that all the finished non-manufactured farm products (fruits and vegetables, dairy and poultry) except those consumed on farms went through wholesale channels.

<sup>4</sup> Water transportation, which is often less costly than railroad, accounts for an insignificant fraction of the movement of finished commodities.

charges for commodities flowing into the different channels.

## 2 FLOW TO AND FROM WHOLESALE TRADE

Wholesale trade, taken as a unit, receives the commodities that it sells from either domestic producers or foreign sources. The value of domestic sales of finished commodities going in 1929 to wholesale trade is estimated in Table III-1, and is shown, with transportation charges added, in column 8. Since, as stated above, it is assumed that all importing and exporting is via wholesale trade, the addition of all finished imports for 1929 yields the foreign share of the flow of finished commodities to domestic wholesalers. The detailed commodity classification of imports and exports, and the totals by minor commodity groups, are given in Table III-2. The entries in column 2 of Table III-3 are, accordingly, the sum of the sales in 1929 by producing establishments to wholesalers, of the transportation charges on these commodities, and of the value of finished commodities imported. The total flow in 1929 of finished commodities to wholesale trade was estimated at some 23 billion dollars.

In tracing what occurred to this commodity volume in the channels of wholesale trade cognizance must be taken of two possibilities. First, it may have been retained completely or in part within the channels of wholesale trade, even though passed along from one wholesaler to the next. If inventories were to be measured uniformly at cost, total inventories would be increased by the original value of commodities retained plus whatever mark-up wholesalers realize when they sell to other wholesalers. Second, this volume of commodities flowing to wholesale trade may be sold *in toto* or in part by wholesalers to retailers and consumers, i.e., units outside wholesale trade; the value will then be increased by the total wholesale mark-up. Given the apportionment of these sales by wholesale trade, taken as a unit, it will be possible to trace further the movement of at least a part of them through the channels of retail trade.

Since the ultimate aim of Part III is to measure the spread in 1929 between the values of finished commodities at producers' prices and at their cost to consumers, the first task is to estimate the portion of this spread accounted for by the passage of finished commodities through wholesale trade channels. This estimate, like that of the spread accounted for by the passing of commodities through retail trade, may be obtained by one of two methods. In the first, the flow of commodities into the

hands of a given group of traders is compared with its outflow, i.e., with sales by that group. This comparison, when supplemented by information on changes in inventories, yields the gross margin between the cost of the commodities to the traders and the values received by them at the point of sale. In the second method information is obtained directly on the usual mark-up added and realized by the given group of traders in return for handling the commodities. When these mark-ups, usually available in the form of percentages to the cost of commodities, are multiplied by the cost values of the commodities sold the result is the total spread added to these values. The first method, which can be designated the volume-of-sales method, requires data on sales and inventories for the commodity group for which it is deemed important to obtain the specific spreads. The second method, the mark-up, requires adequate and detailed data on the percentage mark-up applied and realized on the various commodity groups.

In choosing between the two methods the first consideration is the necessity of measuring the spread for the minor commodity groups. To apply the first method, data are needed on sales and changes in inventories in 1929 by minor commodity groups. Such specific data on changes in inventories are lacking, since inventories are reported in the Census of Distribution only as of December 31, 1929. But since changes in inventories are likely to be a minor factor as compared with the volume of sales, the lack of these particular data is not a serious obstacle to the application of the first method. The difficulty lies primarily in obtaining sales by the specific commodity groups analyzed in Table III-3. The commodity classification of sales in the Census of Wholesale Distribution distinguishes some 91 divisions (see *U. S. Summary*, Table 13). But of these, over 50 are either for completely unfinished commodities or for mixed with a preponderance of unfinished, while the other 40 odd are so allocated that only a few of our minor commodity groups can be provided with even an approximate counterpart. Of these 40 odd commodity classes in the Census, which represent largely finished commodities, fully 9 belong to the single group of food products, and 5 to the single group of dry goods and notions; leaving an obvious shortage of commodity divisions to be matched with the remaining 42 groups in our classification. The application of the volume-of-sales method at the wholesale stage would, therefore, have meant a significant and undesir-

able reduction in the number of commodity groups in the classification used in this report. It was, therefore, applied only to the very few groups in our classification for which some approximate counterpart could be found in the commodity divisions of the wholesale census.

But even for these few groups, for which entries will be found in columns 3 and 4 of Table III-3, there are further obstacles to ascertaining the net value of wholesale sales of finished commodities. The first obstacle, viz., the failure of the commodity breakdown of wholesale sales to cover all sales in the various lines of trade, is minor since the percentage of coverage is high (running in most branches of trade over 95 per cent). The adjustment can easily be made by raising the dollar values by a corresponding percentage to bring the coverage up to 100 per cent; the values in Table III-3, column 3, are the result of this minor adjustment or projection. The second difficulty is, however, much more significant and not easily solved in a satisfactory fashion. Wholesalers may sell to other wholesalers, and the allocation of wholesale sales in 1929 by channels of destination does not distinguish sales to other wholesalers from sales to retailers. Hence, in the analysis, which requires measurement of sales by wholesale trade, taken as a unit and exclusive of duplications, only by excluding from the flow of goods sales by certain types of wholesaler on the assumption that they were selling exclusively to other wholesalers was it possible to adjust for duplication in sales. Accordingly, sales by all agents and brokers were omitted as constituting duplications. As a matter of fact, agents and brokers may sell to retailers and industrial consumers; on the other hand, wholesalers, other than brokers and agents, may sell to other wholesalers. If we judge by the partial evidence in the Census of Wholesale Distribution for 1933, the duplication represented by wholesalers' sales to other wholesalers exceeds sales by agents and brokers to retailers or industrial household consumers. Our adjustment for duplication, by the exclusion of sales by agents and brokers, was therefore probably inadequate. The third difficulty was that the commodity classes taken from the wholesale trade census still contain fractions of unfinished commodities. Consequently, after duplication of sales was corrected for, the sales values were adjusted for sales to industrial consumers. The two adjustments were made as follows: (1) Commodity sales were adjusted for duplication by the exclusion of sales by agents and brokers. (2) The volume of sales by

lines of trade (*U. S. Summary of Wholesale Distribution*, Table 3) was corrected for duplication by applying to it the percentage of downward scaling obtained from step 1. (3) The percentage that the volume of sales to industrial consumers constituted of the adjusted sales was computed for the various lines of trade. (4) The percentages thus obtained for one branch of trade or more dealing primarily in commodities belonging to each of the several minor commodity groups were applied to the sales as measured in step 1, yielding the estimated sales of the commodity group to industrial consumers. (5) The volume obtained as a result of step 4 was subtracted from the volume obtained as the result of step 1, to obtain the fully adjusted entries in Table III-3, column 4. The details of the commodity classification, as well as a detailed description of the three types of adjustment, are presented in Note A to Table III-3.

The lack of correspondence between the commodity classification of the Census of Wholesale Distribution and our commodity classification accounts for the sparsity of entries in columns 3 and 4 of Table III-3; and the inadequacy of our correction for duplication bars any confidence in the totals in column 4. Indeed, when these totals are compared with those in column 2, the mark-up is so strikingly different from the mark-up indicated by other information as to cast grave doubt upon any one or all three magnitudes: sales to wholesalers and imports in column 2, sales by wholesalers in column 4, or the mark-up in column 6. Apparently, the source of error is the estimate in column 4; in any event, the application of the volume-of-sales method to wholesale trade is, with existing data, definitely a failure. For two minor commodity groups alone, both relatively unimportant (furs and fur goods, and office and store equipment), could the total in column 4, upon being checked with the results of the mark-up method, be adopted as the final estimate of the net volume of wholesale sales in column 7. For all other minor commodity groups the mark-up method had to be used.

The largest portion of the mark-up in trade is accounted for by operating expenses, the difference between total mark-up and operating expenses being net profits or losses of trading establishments. Data on operating expenses are available for 1929 in considerable detail, reported in the census of both wholesale and retail trade. The data are for branches or lines of trade, however, not for commodity groups. Two steps must therefore be taken to pass from operating expense data



to mark-up percentages: (1) the lines and types of trade selected must be those whose sales are dominated by the commodities of a given commodity group, so as to allow for the treatment of operating expenses that are applicable to our several minor commodity groups; (2) an approximate fraction must be added to operating expenses to allow for net profits during the year. Note B to Table III-3 shows in detail how the various lines and types of trade have been combined to derive operating expense ratios for each minor commodity group, and what additions were made to these percentages to account for net profits. The net profit ratio is based on that reported to the Income Tax unit<sup>5</sup> by corporations in wholesale trade. The over-all rate of 1.1 per cent is modified from branch to branch according to the differences in profit ratios as revealed by sample studies.

The total mark-up (Table III-3, column 6) amounted to 14.9 per cent, varying but slightly from one major commodity group to another. Recalculated on the basis of the value of sales, this mark-up amounts to a gross margin of 13.0 per cent ( $14.9/114.9$  multiplied by 100). This margin seems at first too large, since for all wholesale trade the percentage of total expenses to volume of sales was in 1929 only 8.85 (see *U. S. Summary*, Table 4, p. 85). But the latter ratio is for all wholesale trade, including sales of unfinished commodities and duplicating sales by agents and brokers. If sales and expenses are taken for wholesalers alone and for manufacturers' sales branches, the two groups of wholesale trade that together account for the preponderant share of non-duplicating sales of finished commodities, the totals become 44.4 billion dollars for sales (instead of 69.3 for all wholesale trade) and 4.84 billion for expenses (instead of 6.14 billion for all wholesale trade). The operating expense ratio thus rises at once from 8.85 to 10.9 per cent. If, further, from sales and expenses of wholesalers alone, sales and expenses in the major lines of unfinished commodities (farm products, n.e.c., farm supplies except machinery and equipment, leather and leather goods except gloves and shoes, lumber and building materials, forest products except lumber, iron and steel scrap and other waste products, metals and minerals except petroleum and scrap, plumbing and heating equipment

and supplies) are subtracted, the operating expense ratio rises from 10.9 to 11.9 per cent. Thus the over-all mark-up for wholesale trade in finished commodities in Table III-3 checks with the operating expense ratio in the Census of Wholesale Distribution, as was predetermined by the method of estimating the mark-up.

The application of the percentages of mark-up in Table III-3, column 6, to the values in column 2 yields the estimated sales of finished products by wholesalers in column 7. The dollar values in column 7 represent not actual sales by wholesalers but the finished commodities at wholesale prices that the wholesalers would have sold had they succeeded in selling all the finished commodities bought by them in 1929 (and no other commodities), at the mark-up commonly realized that year. But if our estimates in columns 2 and 6 are correct, those in column 7 cannot be materially different from the actual net sales of finished commodities, excluding duplication, since wholesale inventories are relatively small and their changes constitute properly but a minor fraction of total sales. According to our calculations in Part V, total inventories of finished commodities held by wholesalers at the end of 1929 amounted, on a cost basis, to about 2.3 billion dollars, or about 10 per cent of the total cost of goods flowing to wholesalers. Hence, even an appreciable change in inventories would cause but a small adjustment in column 7, were it to express actual rather than hypothetical sales. And the estimated change in these inventories (Part V) amounted to an increase of less than 30 million dollars.

The cost of finished commodities reaching domestic wholesalers in 1929 was 23.2 billion dollars; their value at wholesale prices, 26.6 billion dollars, was not far from the actual value of sales of finished commodities by wholesale trade. In the next task, to trace the various channels into which this volume of commodities may have flown, three possibilities must be distinguished: (1) exports; (2) direct sales to domestic ultimate consumers; (3) sales to retailers (Table III-3, columns 8, 9, and 10).

Exports which, according to our assumption, are a part of wholesale sales alone, are taken from the detailed analysis in Table III-2, and their derivation need not be described here. Sales direct to ultimate consumers are estimated on the basis of the Census of Wholesale Distribution, which has for the various lines of trade a category entitled 'sales to ultimate consumers (at retail)'. The main problem was that encountered above

<sup>5</sup> See *National Income, 1929-1932*, Sen. Doc. 124, 73d Cong., 2d Sess. (Washington, 1934), pp. 223-4. This profit rate is, perhaps, too low, since operating expenses do not include compensation of proprietors, which in closely-held corporations may have been deducted as compensation of officers. However, the attempt here was to be as conservative as possible in applying the mark-up method.

in estimating sales to industrial consumers (in adjusting entries in column 4 for the fraction represented by unfinished commodities): the difficulty of applying the quantities shown for total sales (including duplications) by branches of trade to net sales by commodity groups. The solution of this difficulty is described in Note A to Table III-1, and repeats most of the steps listed above in the derivation of sales to industrial consumers. Since this adjustment for duplication is, perhaps, inadequate, the percentages of direct sales to ultimate consumers, being calculated on a somewhat exaggerated base, are perhaps a little too low, and hence the estimates in column 9 also may be too low. However, in view of the small importance of these direct sales by wholesalers to ultimate consumers, the error has little significance in the final estimates of the cost of commodities to ultimate consumers.

Exports and direct sales by wholesalers to ultimate consumers measured, the flow to retailers, the most important part of wholesale sales, is obtained by subtraction (column 10). It will be seen from the grand totals of columns 8, 9, and 10 that exports and direct sales to ultimate consumers account for only about 8 and 9 per cent, respectively, of total sales, the other 83 per cent being sales to retailers. But just as in the distribution of sales by manufacturing plants, the percentage of direct sales to ultimate consumers is particularly high in the producers' durable group, slightly over 60 per cent. Similarly, the share of exports in this group is also much larger than in the other major commodity classes, about 23 per cent as compared with percentages ranging from 8 for the consumers' durable class to about 5 for perishable. In these three classes of consumers' finished products exports and direct sales to ultimate consumers are relatively unimportant, and the percentage of sales to retailers is high, accounting for from over 90 per cent in perishable and semidurable to over 99 per cent in consumers' durable.

### 3 FLOW TO AND FROM RETAIL TRADE

Finished commodities flow into the channels of retail trade either directly from the producing establishments or from wholesale trade. The first part of this flow (Table III-1, column 6), the cost of finished commodities, including transportation charges, flowing from producers directly to retailers, was 12.5 billion dollars in 1929. The second part of this flow (Table III-3, column 10), the value of finished commodities flowing from wholesale trade into retail channels, was 22.2 bil-

lion dollars in 1929. Thus of the total, 34.6 billion (Table III-4, column 1) slightly more than one-third came directly from producers and slightly less than two-thirds from wholesale trade.

The application of the volume-of-sales method to the analysis of wholesale trade proved unsuccessful, largely because the commodity classification of wholesale sales was inadequate, and to adjust for duplicated sales from one wholesale unit to another was difficult. For retail trade, both obstacles are much less formidable. The commodity classification of retail sales, with some 200 commodity divisions, is more detailed, and it applies largely to finished commodities and construction materials, excluding the large volume of other unfinished products handled by wholesale trade. Duplicated sales from one retailer to other retailers are a very minor fraction of total retail sales and, being largely in unfinished commodities, may be disregarded in our analysis. Hence, an attempt was made to apply the volume-of-sales method extensively, and to compute, from the Census, retail sales in 1929 for each minor commodity group, excluding, of course, those whose products do not pass through retail channels.

The commodity breakdown of sales, as given in the Census of Retail Distribution for each state and for the country as a whole, is based upon a much less substantial sample of total sales than is the corresponding commodity coverage of wholesale sales, owing partly to the fact that commodity reports were not requested from stores with annual sales less than \$60,000, or from stores in places with less than 10,000 population; partly to the fact that many stores from which such information was requested could not provide it. The coverage varied from one line of trade to another, was naturally much higher in the larger than in the smaller cities and country places, and varied from state to state depending largely upon the concentration of population (see *Census of Distribution*, Vol. I, *Retail Distribution*, Part 2, pp. 18-20). But since the percentage of coverage ran in all states from 25 to 40, the sample may be considered sufficiently large to give an approximate allocation of total sales by commodities. The commodity classification in the Census was matched with our classification by minor commodity groups (for the details see the first part of Note A to Table III-4). It was possible to retain all the minor commodity groups, except that groups 15 and 36, household furniture, and office furniture and equipment, had to be combined; and that for some of the small groups in the producers' durable

class sales could not be computed from the Census.

Table 15 of the Census shows both for the country as a whole and for each state the percentage accounted for by each commodity in the total sales of each group of stores (each kind-of-business group). The state percentages were weighted by the volume of sales, i.e., they were computed by adding together total sales of all stores that reported sales of the given commodity, adding the sales of the given commodity by all these stores, and then computing the percentage of the latter total to the former. So far as the stores reporting commodity coverage were a substantial sample, and their commodity breakdown typical of all stores in the state, the percentages thus obtained enabled us to estimate for the state the approximate sales of each commodity. This was done in accordance with Census instructions: "Go through the separate sections of the table and list every kind of business in which the commodity appears, setting down opposite each the percentages shown in the second column (i.e., the column giving the percentage distribution of total sales of each kind-of-business group among the various commodities). From Table 1 set down opposite each item the total sales of all stores of that kind. Apply the percentage to the total sales of the kind of store to which it applies, thereby determining the approximate sales of the commodity in each kind of store. Adding these dollars together, the total is the approximate total sales of the commodity in all stores in the city (or state), except only the kind-of-business classifications which are not reported in Table 15" [i.e., the table which shows the commodity breakdown] (*ibid.*, p. 22). We have applied this procedure, state by state for all states, for most durable and semidurable commodities (Table III-4, column 4). The only element of estimating was in measuring commodity sales in the kind-of-business classification not reported in Table 15 of the Census. For these (but a minor fraction of the total sales of each commodity) we took the commodity percentage in the same kind-of-business classification from a contiguous state in which this classification did appear in Table 15.

The laboriousness of this procedure restricted its use, and suggested the advisability of using the commodity percentages for the country as a whole. These national averages were computed, however, by a method different from that used for the state averages. "... the Bureau has averaged the several State percentages in each geographic division ... and then has averaged the divisional averages to produce the national figures. ... No

workable weighting could be devised" (*Census of Distribution*, Vol. I, *Retail Distribution*, Part I, p. 958). Furthermore, the percentages are characterized as 'consistently reported' and 'variously reported'. For each geographic division the commodities reported in all states, or all states but one, were listed as 'consistently reported'. If the commodity was omitted in more than one state, not having been reported sufficiently to yield a state percentage, the item was listed in its geographic division as 'variously reported', and instead of a single percentage, the highest and lowest percentages for the state were given. Similarly, in the national averages, a consistently reported commodity with a single percentage, was one reported consistently in all nine, or in eight of the nine geographic divisions. If more than one geographic division listed the commodity as variously reported, it was so characterized in the national averages, and instead of a single percentage, two were given, the highest and the lowest among those geographic divisions in which it was consistently reported. Finally, the national averages differed from the state averages in another respect: the latter did not cover the commodity breakdown of the sales by national chains, while "the national figure is the average of the divisional averages, unweighted, plus the chain ratios, weighted in the proportion in which chain sales bear to independent store sales" (*ibid.*, p. 958).

In applying the national averages, i.e., the average percentage accounted for by each commodity in the total sales of each type-of-business group of stores, the only estimating necessary was in obtaining a single percentage for the variously reported entries. The practice was to obtain the geometric mean of each pair of percentages reported, summate these means for all the commodities variously reported for a given group of stores, and then readjust each single mean proportionately so that their sum equaled the single percentage given in Census Table 15 for all the variously reported commodities in the given group of stores. Inspection of Census Table 15 (*ibid.*, pp. 959-68) shows that this adjustment affected but a minor fraction of the total sales of each commodity.<sup>6</sup>

The estimates of retail sales by minor commodity groups, resulting from this application of the national averages, are given in Table III—column 3. For the minor commodity groups for which both state and national averages were used, the difference, in most lines, appears to be slight.

<sup>6</sup> An additional minor adjustment was made in estimating the commodity breakdown of sales by general stores.

particularly for groups with a large absolute volume of sales, the discrepancy rarely runs above 3 per cent of either total. It may, therefore, be assumed that the estimates of retail sales for minor commodity groups in column 3, for which the laborious procedure based on state percentages has not been followed, are good approximations to the totals that would have been yielded by a more detailed study of the Census of Retail Distribution.

The main purpose of the estimates of retail sales by minor commodity groups is to enable us to measure the specific spreads between the cost of commodities to retailers and their cost at retail to ultimate consumers. The next task is, therefore, to compare the totals in columns 3 and 4 with those in column 2, compute the spread represented by the difference and observe whether its magnitude is corroborated by the information, otherwise available, on the amount of the retail mark-up. This information, summarized in column 7 of Table III-4, is based largely upon the same type of source that was utilized in order to measure the prevailing mark-up in wholesale trade. Note B to Table III-4 provides specific indications of the sources of the operating expense ratios and mark-ups, and the nature of the allowance for net profit.

Comparison of columns 2, 3, 4, 5, 6, and 7 reveals in most of the minor commodity groups a lack of agreement between our estimates of the cost of the commodities flowing to retailers, the sales of these commodities by retailers as estimated from the Census of Retail Distribution, and the mark-up as based upon fairly extensive information provided in it as well as in other sources. This disagreement is especially marked in the perishable class, but it is frequent also among the commodity groups in the semidurable and the two durable classes. In these three last-mentioned, only seven minor commodity groups were found for which estimated retail sales could be accepted as consonant with the cost of goods flowing to retailers raised by the usual retail mark-up. While these results indicate a much greater validity of the volume-of-sales method in retail than in wholesale trade, the disparity between retail sales as derived from the Census and the hypothetical volume of retail sales based upon the addition of the usual mark-up to the cost of commodities flowing to retailers is too large to be dismissed without analysis. The sources of this disparity must be ascertained, and, if possible, measured, before the proper basis for measuring the retail spread in 1929 can be determined.

#### 4 SOURCES OF DISPARITY BETWEEN TOTALS OF RETAIL SALES DERIVED BY THE MARK-UP AND THE VOLUME-OF-SALES METHODS

If we take the minor commodity groups for which retail sales could be estimated by the two methods, i.e., excluding minor commodity groups 5a and 5b (manufactured fuels and petroleum products, and coal) and those small groups among producers' durable commodities for which no retail sales were indicated, the two totals are 37.57 billion dollars<sup>7</sup> (column 3), and 45.45 billion (column 8). The disparity, 7.88 billion dollars, or approximately 19 per cent of the average of the two totals, is too large to be due to differences in precision of the two methods. It must obviously arise from the lack of comparability between the two totals, or substantial shortages and excesses of coverage in one.

We analyze first the discrepancy arising from two aspects of the lack of strict comparability of the two totals. First, the total based on the mark-up method takes no account of changes in inventories, since it measures not the actual sales by retailers but what would have been their sales had they sold all and only the commodities flowing from production and imports during 1929, and had wholesalers sold to retailers the usual proportion of all the commodities flowing to them from production and imports. But part of this flow to wholesalers and retailers might have been retained by either the former or the latter, and hence be reflected in increased inventories. Approximate calculations in Part V show that during 1929 wholesale inventories of finished commodities increased some 25 million dollars, and retail inventories of finished commodities increased almost 120 million dollars. Adding to these increases the corresponding average wholesale and retail mark-ups we obtain the retail value of these increases in inventories of roughly 200 million dollars.

The second aspect of lack of comparability is that finished commodities, whose cost was estimated in Table III-4, column 2, may have passed to ultimate consumers outside the channels included by the Census of Distribution under retail trade. Several types of outside channel suggest

<sup>7</sup> The remaining 11.5 billion dollars which goes to make up the Census total of 49.1 billion is composed of the following commodities as estimated by the use of national averages: coal, 0.97; manufactured fuel and lighting products, 2.03; building materials, 3.41; fertilizer, 0.98; flowers and wreaths, 0.16; pets, 0.01; sign shops, 0.01; servicing, 1.17; second-hand merchandise, 1.52; miscellaneous, not classified, 0.78; goods sold to other dealers, 0.51

themselves. First, some finished farm products, such as fruits and vegetables, and dairy and poultry products, may be sold by farmers directly to ultimate consumers. In the calculation above, it was assumed that the finished part of these commodity groups was all sold to wholesalers. Hence the major part (95 per cent, see Table III-1, line for Minor Commodity Group 1) is assumed to go also to retailers and swell sales as estimated in Table III-4, column 8. All direct sales of such products by farmers appear, with appropriate transportation charges and mark-ups, as retail sales in column 8. Since the Census of Retail Distribution does not, of course, cover direct sales by farmers, they do not appear in any of the estimates in column 3 or 4. It is difficult to evaluate the retail value of these direct sales of finished products by farmers in 1929. According to the estimate in Table II-1, the total value, at producers' prices, of fruits and vegetables, and dairy and poultry products, sold by farmers was 4,068 million dollars in 1929, of which 2,781 were finished and 1,287 unfinished. If it is assumed that 10 per cent of the sales of finished products were direct by farmers to ultimate consumers, and the cumulated transportation charges and wholesale and retail mark-ups are added, the result is a retail value of these direct sales of some 500 million dollars.

Second, the Census of Retail Distribution does not cover hotels that serve meals and dispense also some other perishable and even semidurable products (e.g., tobacco and accessories, novelties). The value of meals alone amounted to 358 million dollars in 1929, and it may be added as appearing in the estimates based on the mark-up method but not in those based on the volume-of-sales method (see *Census of Distribution*, Vol. I, *Retail Distribution*, Part 1, p. 14).

Third, a considerable group of the commodities considered in Table III-4 as going into retail channels may have been bought and dispensed to ultimate consumers through such servicing businesses as cleaning and dyeing establishments, laundries, barber shops, hotels (excluding meals), by public utility enterprises (selling gas and electric appliances to ultimate consumers), and by individuals in professions such as medicine (dispensing drugs). The commodities thus distributed were not considered unfinished, so long as their nature was such that they could have just as easily passed to ultimate consumers through retail trade proper. When a wholesaler sells hair tonics to a barber, he probably classifies them as sales to a retailer; and hence the estimates, based on the

mark-up method, include all these commodities at their approximate retail value. No such sales appear in the Census of Retail Distribution. Unfortunately, data that would throw light on the volume of finished commodities passing to final consumers through these service, public utility or professional establishments are not available. A round sum of 500 million dollars for them does not seem unreasonable, although it is, of course, merely a guess.

Finally, it is to be doubted that the Census of Retail Distribution covered retail units operating without a fixed place of business, such as hucksters, peddlers, and itinerant vendors. No definite information on this score is given in the Census for 1929, but in that for 1933 it was stated: "Itinerant vendors and others who maintain no regular established place of business were not included" (Vol. IV, p. 1). Some perishable products, such as fruits and vegetables, and other foods, some semi-durable and perhaps even a very small amount of consumers' durable commodities may thus pass to ultimate consumers. Again there is lack of information on the subject, and we can merely guess the retail value of the amounts at 500 million dollars.<sup>9</sup>

Thus the differences in coverage between the estimates based on the mark-up method and those derived from the Census of Retail Distribution account for the following excess, in millions of dollars, of the former estimates.

Retail value of increase in inventories of finished commodities	20
Direct sales by farmers (retail value)	50
Meal sales in hotels	35
Sales through servicing and public utilities and professional establishments	50
Sales through itinerant units	50
Total	2,05

This reduces the total discrepancy from 7.88 billion dollars to 5.82.

We may now consider some of the deficiencies

<sup>8</sup> Receipts from sales of lamps and appliances by the gas industry, as reported in the Census of Manufactures, were 3 million dollars in 1929. Sales of electrical appliances by electric light and power companies were 113 million dollars in 1933 (see *Sales of Electrical Appliances by Electric Light and Power Companies, 1931-1935*, by Statistical Department, Edison Electric Institute, February 18, 1933, p. 1). Of course, some of these sales may have been covered in the Census of Distribution.

<sup>9</sup> William H. Lough estimates "sales of farm products direct from farms to consumers and sales by hucksters and peddlers having no established place of business" at 1,500 million dollars (cf. *High-Level Consumption*, McGraw Hill, 1935, p. 265). Direct sales by farmers were estimated by us at 500 million dollars, and all sales by itinerant vendors at 500 million, yielding a total of 1 billion. There is little basis for judgment as to the relative accuracy of the two estimates.

in the commodity coverage of the Census of Retail Distribution, so far as retail trade proper as defined by the Census itself is concerned. First, 776 million dollars of retail sales were not classified in the Census according to their commodity composition, and hence could not be included in the estimates by minor commodity groups and the totals in column 3 or 4 of Table III-4. Column 3 covers 37.6 billion dollars of retail sales out of a total reported by the Census of 49.2 billion. Applying the percentage that the first total constitutes of the second to the unclassified item of 776 million, we obtain some 600 million dollars of retail sales, which should be added to the 37.6 billion in column 3 to reduce the discrepancy still further.

Second, there is an obvious reason why the Census of Retail Distribution could not have covered completely the retail sales actually made in 1929. It was taken in 1930, with an April 1 date, and could not, of course, reach business units that operated through all or part of 1929 but went out of existence or were not operating at the time it was taken. This non-existence of retail units in 1930 that had operated in 1929 could be due to two, essentially different, reasons: (1) The mortality common in retail trade meant that a number of retail stores either failed or retired between January 1, 1929 and the date in 1930 when the Census was taken. The period over which such voluntary or involuntary retirement could have occurred was thus at least one year and a quarter. (2) Many retail units operate on a seasonal basis, and those that operate only during the summer, fall, or winter, even though they were in existence in 1929 and may have begun functioning again in 1930, could hardly have been reached by the Census in the spring of 1930.

There are no data that would make possible an accurate estimate of the shortage arising from such disappearance or non-operation at the time of census-taking in 1930 of retail units that functioned in 1929. But there is some basis for making a reasonable guess at the shortage in coverage due to failures and retirement. The Census of Retail Distribution for 1933 gives the number of stores that operated in both 1933 and 1929, and indicates that about 36 per cent of the stores functioning in 1929 had disappeared by early 1934. The sales of the stores existing in both 1929 and 1933 were 19.9 billion dollars in 1933 (see Vol. IV, pp. iv and 3), and constituted 79.6 per cent of total sales. But we are interested in the sales by the stores in 1929 that handled finished commodities whose flow is analyzed in Table III-4. The total decline in re-

tail sales from 1929 to 1933 was from 49.1 to 25.0 billion dollars, or 49 per cent; if we exclude the group of lumber and building products, second-hand stores, coal yards, and a few other minor lines not included in Table III-4, the percentage decline becomes 48.4, the sales in 1929 amounting to 43.8 billion dollars, and in 1933 to 21.1. The decline in the sales of the surviving stores must have been less appreciable, but for purposes of carrying the calculation further we may assume it to have been identical with that of all stores in the same group, thus probably underestimating the correction to be made.<sup>10</sup> On this assumption, applied to each branch of trade, sales by those stores which operated in both 1929 and 1933 must have amounted in 1929 to 34.9 billion dollars; total sales by all stores were 43.8 billion. Hence, sales by stores that operated in 1929 but went out of existence by the end of 1933 must have been 8.9 billion dollars; and this would have represented the minimum shortage in coverage of 1929 sales, were the Census of Distribution for 1929 taken in early 1934, i.e., at the time the Census of Distribution for 1933 was taken. This total shortage, applied to our totals for 1929 (which cover only 37.8 of the 43.8 billion mentioned above), amounts to 7.7 billion dollars. Since five years elapsed from the beginning of 1929 through the end of 1933, this yields an annual shortage of 1.54 billion. And for the year and a quarter elapsing from January 1929 to the time of census-taking in 1930, the estimated shortage would be 1.92 billion.

Of course, it would be dangerous to assume that this shortage of 1.92 billion dollars represents the shortage due to non-coverage of business units that were operating in 1929 but had failed or retired by the time of the census-taking in 1930. The omission of firms that retired early in 1929 represented most likely a smaller loss in coverage than that of firms that retired later in 1929 or during the first quarter of 1930. The relative rate of failures and withdrawals must have been greatly accelerated by the development of the depression and must have been materially higher in the later part of 1930, 1931, 1932, and the early part of 1933, than during 1929 or the first quarter of 1930; although the secular mortality rate in retail trade is fairly high at all times. On the other hand, two factors reduce this difference between absolute trade mortality in 1929 and in the later

<sup>10</sup> How large such an underestimate may be is shown by an application of a rate of decline of 40 per cent for the total sales of stores surviving from 1929 to 1933. This rate would yield a shortage in coverage of the 1929 sales amounting to 13.8 billion dollars, instead of the 8.9 derived in the text.

years. First, sales and prices declined precipitously in 1930, 1931, 1932, and 1933 as compared with 1929. The relative mortality rate in 1933, which would be twice as high as in 1929, means, consequently, an absolute shortage of coverage that would be just equal to the absolute shortage of coverage of a mortality rate half as small in 1929. Second, it may even be assumed that, other conditions being equal, the mortality rate would be higher in the first or second year of the period, the surviving population being subject to a lower mortality rate after the weaker units have withdrawn. The balance of all these considerations suggests that the shortage of coverage due to retirement in 1929 and the first quarter of 1930 could not have been much less than about two-thirds of the figure suggested above, thus yielding an absolute shortage of about 1.5 billion dollars.<sup>11</sup>

This still fails to allow for any shortage in coverage that may arise from the seasonal character of retail trade, since the Census of 1930 could not have obtained information for business units operating during the summer, fall, and winter, and the Census of 1933 could not have covered retail units operating only during late spring, summer, and fall. No adequate basis of estimating this shortage is available, although some remote indication is given by the fact that during 1929 receipts of hotels (with 25 or more guest rooms) operating from two to eight months of the year were about 8 per cent of the receipts of hotels operating through the year (see *Abstract of the Fifteenth Census*, pp. 954-5, Washington, 1933). This percentage is obviously too high to be applied to retail trade. But it does not seem unreasonable to estimate this percentage at about 2, and thus obtain a shortage in reporting, owing to seasonal factors, of roughly 750 million dollars.

Adding these estimates of the various parts of retail trade in 1929 that either could not be classified by commodities or could not have been covered by the Census of Retail Distribution because of the disappearance or non-operating at the time of census-taking of retail units operating in 1929, we obtain the following picture, in millions of dollars.

Discrepancy accounted for so far (due to difference in scope)	2,058
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<sup>11</sup> Dunn and Bradstreet show that annual total liabilities of failing trading firms were for 1929-33 about 303 million dollars. For 1929 they were 225 million, or 75 per cent of the annual average for 1929-33 (see *Statistical Abstract*, 1934, p. 282). In the light of these figures, the reduction of the estimated shortage from 1.92 to 1.5 billion dollars in the text appears approximately correct.

Not classified by commodities	600
Shortage on account of failure or retirement	1,500 <sup>1</sup>
Shortage to allow for seasonal operation	750 <sup>1</sup>
Total discrepancy accounted for	4,908
Total discrepancy between estimates	7,880
Residual discrepancy	2,970

<sup>1</sup> W. H. Lough estimates the total shortage due to omission of "sales of retailers who went out of business at any time between Jan. 1, 1929 and the date of census-taking or who operated seasonally and therefore were not reported in the Census" at 1,500 million dollars (*op. cit.*, p. 265). Our estimates for those two items are 2.25 billion dollars, and if the analysis upon which they are based is correct, there is reason to assume that Mr. Lough's allowance is somewhat too low.

This residual discrepancy may be somewhat too small, if we consider that our data on production fail to include establishments with a value of product under \$5,000, which should have reduced the totals based on the mark-up method and could not have affected those based on volume of sales.<sup>12</sup> Also, some shortage may exist in the coverage of the Census of Manufactures because of retirement of manufacturing establishments, although it could not have been large. It is perhaps reasonable to assume that the residual discrepancy is close to 3 billion dollars.

What may be the sources of this residual discrepancy? If we assume that our analysis is correct, they may lie either in the failure of the Census of Retail Distribution to cover total sales even in the retail units within its scope that were operating at the date of census-taking; or in the exaggeration, in the estimates based on the mark-up method, of the dollar value of commodity flow to retailers and/or the gross margin between the cost of these commodities to retailers and the retail sales value. Finally, we may have underestimated the magnitude of the shortages arising from the specific sources described.

The analysis of the discrepancy between the two estimates for specific commodity groups suggests clearly that either we have underestimated the magnitude of the shortages arising from the sources indicated above, especially the value of sales through the servicing industries and the shortages due to retirement or seasonality; or that the Census of Retail Distribution failed to cover fully sales of retail establishments that were within its scope and were in operation at the time of census-taking. Of the two possibilities, the former seems much more plausible; although a shortage estimated at 130 million dollars is reported in the

<sup>12</sup> The total output of these units in 1919 was 167 million dollars (see *Abstract of the Census of Manufactures for 1919*, Table 201, p. 357).

Census of Retail Distribution itself with reference to its coverage of sales by milk dealers. We may cite two conspicuous examples among many:

Minor Group 2, *Cigars, cigarettes and tobacco*.

The discrepancy in this group is 1.2 billion dollars. Mark-ups, which gave the larger total, were carefully checked by using the annual data on consumption available from the Bureau of Internal Revenue, and the known wholesale and retail prices. We can scarcely assume that the large discrepancy between the two estimates is accounted for by the specific sources of shortage listed above, unless the magnitude of such shortages has been underestimated. The changes in inventories for all finished commodities were 200 million dollars; total flow through servicing and other establishments, 500 million; the share of this commodity group in shortages that arise from retirement, seasonal operation, itinerant selling, or the unclassified item must be relatively small. We may well have underestimated sales through servicing establishments, hotels, clubs, etc., if they account for a large part of the tobacco sales not reported in the Census of Retail Distribution.

Minor Group 11, *Shoes and other footwear*.

Total output, at manufacturers' prices, amounted in 1929 to 1,085 million dollars. Retail sales, derived from the Census of Retail Distribution, were only 1,338 million. Sales direct to ultimate consumers by either manufacturers or wholesalers are negligible. The total mark-up indicated by the two totals, of about 22 per cent on a cost basis, and less than 20 per cent on a sales-value basis, seems, therefore, highly inadequate. Half of the output goes to retailers via wholesalers, the other half directly. The wholesale mark-up is 18.5 per cent on cost; the retail, 50 per cent, representing gross margins of 16 and 33 per cent, respectively. The discrepancy of some 470 million dollars between the estimates by the mark-up and the volume-of-sales method, amounting to 35 per cent of the latter, could hardly be explained by factors of retirement, seasonality (which together account for about a 7 per cent shortage), by changes in inventories or any other sources of shortage, unless their magnitude has been underestimated above.

Of course, the estimates based on the mark-up method may easily contain an element of exaggeration. In the original breakdown of mixed commodity items the estimate of the unfinished part was usually a minimum, and hence there may have been some exaggeration in the finished part obtained as a residual. Thus, in a minor commodity group such as magazines, newspapers, stationery,

and paper products (Minor Group 4), the excess of the estimate based on the mark-up method over that based on volume of sales, 850 million dollars, may have arisen not only because a vast volume of magazines and newspapers is distributed through hotel lobbies, clubs, newsboys, corner newsstands, train butcher boys, etc; but also because of a possible overestimate of the finished figures at the manufacturing stage. For perishable commodities like stationery and paper products, it is impossible to distinguish between sales to wholesalers and retailers for their own use, and sales to them that are destined for resale.

There is much less likelihood that the mark-ups used contained an element of exaggeration, since they were based largely on fairly comprehensive data on operating expenses, and the profit ratios added were quite moderate. The general character of the wholesale mark-ups has already been discussed. The much more important retail mark-up (Table III-4) is 37.5 per cent of cost for all retail trade in finished commodities, or 27.3 per cent of the value of sales. This mark-up is based on operating expenses as reported in the Census of Retail Distribution, plus a profit ratio taken from the reports of retail trade corporations. This general profit ratio amounted in 1929 to 1.6 per cent of total sales,<sup>13</sup> and was varied from one commodity group to another on the basis of sample studies of net profit rates for various branches of trade. It is doubtful that any element of exaggeration crept into the profit ratios thus allowed. But there may have been some overestimate of retail expense ratios in the Census for 1929, because of the method of computing proprietors' compensation, an item included among operating expenses. However, the total item was 1,823 million dollars for all retail trade, and, excluding the largely unfinished groups listed above, 1,673 million. Moreover, transportation charges were, perhaps, underestimated in the calculations based on the mark-up method.<sup>14</sup>

The final conclusion of this tentative analysis is that, of the discrepancy of some 8 billion dollars between total retail sales as estimated by the mark-up and the volume-of-sales methods, at least 5 billion dollars and perhaps somewhat more is fully accounted for by differences in the scope of coverage and the difference between the universe sur-

<sup>13</sup> See *National Income, 1929-1932*, pp. 223-4. The profit figure used was exclusive of exempt interest receipts and dividends from domestic corporations, and after payment of taxes.

<sup>14</sup> Also, the elimination of duplicated sales in wholesale trade served to reduce the mark-up estimate, since it took no cognizance of wholesalers who sell to other wholesalers.



veyed by the Census in 1930 and that in existence during 1929. Hence, the possible understatement in the Census of Retail Distribution of sales in 1929 by the retail units operating at the time of census-taking in 1930 was certainly not much in excess of 2 billion dollars, and quite probably considerably less. Inasmuch as the totals are about 40 billion dollars, such understatement, if present, does not seem excessive. On the other hand, the possible element of exaggeration in the estimate based on the mark-up method is not over 2 billion dollars, and is probably considerably less. Since we derived the latter total to measure the magnitude of the retail spread in 1929; since all evidence indicates that the exaggeration, if present, is not more than between 2 to 4 per cent of it; and since there is no way of estimating the spread more exactly we have decided to retain the totals in column 8. As measures of retail sales, these estimates are somewhat too large, if only by the 200 million dollars of the retail value of increase in inventories; but no adjustment for the latter is needed if they are to be used to derive the retail spread. For this purpose, they should perhaps be scaled down by some fraction of the retail value of direct sales by farmers to consumers, since prices charged by farmers in direct sales are perhaps below the retail prices charged in stores. But the amount is rather insignificant as compared with the totals; and since no exact basis for this reduction could be found, it was thought permissible to let the totals stand as they appear now in Table III-4.

### 5 CONCLUSION

If the estimates as they appear in column 8 of Table III-4 are accepted, with the qualification that they perhaps exaggerate somewhat the retail value of the finished commodities whose cost to retailers is given in column 2, then the way is open to calculating the value of the total flow of finished commodities to ultimate consumers, at the cost to them. The value to consumers of the finished commodities sold by their producers or imported in 1929, destined for domestic consumption, was 56 billion dollars; of these, 48 billion represented the part flowing to ultimate consumers from retail trade, 2.4 billion the part flowing to ultimate consumers directly from wholesalers, and 4.8 billion the part flowing to ultimate consumers directly from producers. This apportionment of the total value varies from one major commodity class to

another, but the differences have already been discussed.

Table III-5 summarizes the results of the analysis in Part III, showing the relative magnitude of the total spread between producers' sales of commodities destined for domestic consumption and their value at the cost to consumers. Columns 2 and 3 indicate also the method used to obtain the wholesale and retail values, respectively; columns 8, 9, and 10 indicate how the total spread, expressed in percentages of the final values, is apportioned among the separable transportation charges and the margins in wholesale and retail trade, respectively.

Of the total value, at the cost to ultimate consumers, 56 billion dollars, fully 34 per cent is accounted for by transportation and distributive charges. In other words, to the value of the commodities, in producers' prices, 37.1 billion dollars over half is added to cover the cost of transportation and distribution. Of the gross margin of the final value, 34 per cent, about one-tenth is represented by the separable transportation charges, although this obviously underestimates the relative cost of total transportation, as distinct from the cost of distribution proper. About 6 per cent of final values, or one-sixth of the total spread, is represented by the distributive charges of wholesale trade. The remainder, about 24 per cent of final values, or over two-thirds of the total spread is accounted for by the distributive charges of retail trade.

The total percentage spread and its apportionment vary significantly from one major commodity class to another. In producers' durable commodities the total gross margin is less than half of that in the other three commodity classes. Both the separable transportation charges and the margins in wholesale trade, when expressed as percentages of final values, are highest for commodities in the perishable class. The margins in retail trade when expressed as percentages of final values, are highest in the semidurable class and lowest in the producers' durable. And there are striking variations in the total spread and in its apportionment among the minor commodity groups. For the latter, however, the estimates in Table III-5 and in most of the tables in Part III should be viewed with great caution and always tested with reference to the specific groupings and assumptions underlying their derivation.

Table III—1

**DISTRIBUTION OF SALES BY PRODUCERS OF FINISHED  
PRODUCTS  
MINOR COMMODITY GROUPS, 1929**

This table shows the volume of sales in 1929, inclusive and exclusive of transportation charges, by producers of finished commodities to wholesalers, retailers and direct to ultimate consumers. The basis for estimating the distribution of sales is described in Notes A and B following the table; additional comments are presented in the Preface to Part III, Section 1. The basic data for estimating transportation charges are provided in Table IV—1.

DISTRIBUTION OF SALES BY PRODUCERS, 1929  
(thousands of dollars)

Minor Commodity Group		Excluding Transportation Charges				Including Transportation Charges			
		Total Sales-1 (see Table II-3)	Sales to Retailers	Sales Direct to Ultimate Consumers	Sales to Wholesalers	Sales to Retailers	Sales Direct to Ultimate Consumers	Sales to Wholesalers	Total Sales
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Perishable									
1	Food and kindred products	12,636,280	3,584,955	669,941	8,381,384	3,697,982	682,853	9,323,121	13,703,956
2	Cigars, cigarettes and tobacco	1,252,465	47,343	7,688	1,197,434	47,816	7,765	1,209,408	1,264,989
3	Drug, toilet and household preparations	1,112,272	294,956	78,326	738,990	309,704	82,242	775,940	1,167,886
4	Magazines, newspapers, stationery and supplies, and misc. paper products	979,814	439,050	174,850	365,914	444,608	175,349	375,441	995,398
5a	Fuel and lighting products, manufactured and petroleum products	1,318,436	371,983	6,793	939,660	435,220	7,948	1,099,402	1,542,570
5b	Coal	412,250	57,322	none	27,852	60,761	none	29,523	90,284
6a	Misc. perishable: caskets and coffins	85,174	4,795,609	937,598	11,651,234	4,996,091	956,157	12,812,835	18,765,083
Total Perishable (excl. 5b)		17,364,441							
Semidurable									
7	Dry goods and notions	975,266	261,246	13,374	700,646	266,471	13,641	714,659	994,771
9	Clothing and furnishings, men's and boys'	1,827,731	1,104,061	101,856	621,816	1,137,183	104,912	640,470	1,882,565
10a	Clothing, women's, misses' and children's	2,431,027	1,753,374	77,000	600,633	1,805,975	79,310	618,673	2,503,958
10b	Furs and fur goods	160,421	62,564	28,234	69,623	64,441	29,081	71,712	165,234
11	Shoes and other footwear	1,084,714	519,537	7,850	557,327	535,123	8,086	574,047	1,117,256
12	Misc. house furnishings	482,191	228,494	70,982	181,715	236,379	73,111	187,166	496,656
13	Toys, games and sporting goods	284,718	79,121	17,718	187,879	81,495	18,250	193,515	293,260
14	Tires and tubes	472,361	119,765	1,440	351,156	122,160	1,469	358,179	481,808
Total Semidurable		7,718,429	4,129,162	318,454	3,270,815	4,249,227	327,860	3,358,421	7,935,508
Consumers' Durable									
15	Household furniture	625,380	445,514	13,894	165,972	467,790	14,589	174,271	656,650
16	Stoves, ranges and water heaters	189,638	112,922	137	76,577	115,180	17,140	78,109	193,429
17a	Washing machines, sewing machines, etc.	142,828	76,145	5,268	61,415	77,668	5,373	62,643	145,684
17b	Mechanical refrigerators	125,913	1,804	1,202	122,907	1,226	1,226	128,364	128,430
18	House furnishings (durable)	492,027	201,175	25,344	285,508	207,210	26,104	273,473	506,787
19	China and household utensils	248,063	95,439	23,853	128,771	104,983	26,236	141,648	272,569
20	Portable household electric appliances and other supplies	106,985	22,742	8,035	76,209	23,424	8,276	78,495	110,195
21	Radio apparatus and equipment	368,476	28,822	21,656	339,998	26,163	22,739	355,998	407,900
22	Musical instruments	120,543	47,126	16,487	56,931	49,482	17,311	59,778	126,571
23	Jewelry, silverware, clocks and watches	288,490	105,473	21,563	161,454	108,637	22,210	166,298	297,145
24	Printing and publishing: books	199,015	57,316	88,562	53,137	59,035	91,219	54,731	204,985
25	Luggage	64,801	43,481	7,452	13,867	44,785	7,676	47,744	66,744
26	Passenger cars	2,799,737	1,195,488	16,798	1,587,451	1,248,099	17,537	1,657,299	2,922,935
27	Auto-parts and accessories	407,584	82,748	none	324,836	83,575	none	328,084	411,659
28	Motorcycles, bicycles and accessories	18,273	10,345	none	7,928	10,655	none	8,166	18,821

TABLE III-I (Concluded)

Minor Commodity Group	Excluding Transportation Charges				Including Transportation Charges			
	Total Sales <sup>1</sup> (see Table II-3)	Sales to Retailers	Sales Direct to Ultimate Consumers	Sales to Wholesalers	Sales to Retailers	Sales Direct to Ultimate Consumers	Sales to Wholesalers	Total Sales
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
29 Pleasure-craft	26,723	8,840	17,883	12	8,840	17,883	12	26,723
30 Ophthalmic products and surgical and orthopedic appliances	53,252	11,586	9,002	32,665	11,934	9,272	33,645	54,851
31 Monuments and tombstones	63,635	none	34,045	29,590	none	39,492	34,324	73,816
Total Consumers' Durable	6,361,363	2,544,966	311,181	3,505,216	2,651,300	327,285	3,647,609	6,626,194
Producers' Durable								
32 Industrial machinery and equipment	2,210,362	none	1,070,598	1,139,764	none	1,092,010	1,162,559	2,254,569
33 Electrical appliances, industrial and commercial	976,832	3,177	795,613	178,043	3,241	811,525	181,604	996,370
34a,c Farm machinery and wagons	424,198	59,058	83,485	281,654	60,830	85,990	290,104	436,924
34b Tractors	196,997	59,099	14,775	123,123	60,872	15,218	126,817	202,907
35a Office and store equipment	233,602	95,389	84,657	53,557	97,297	86,350	54,628	238,275
35b Vending machines	8,821	none	5,637	3,184	none	5,749	3,248	8,997
35c Signs	113,137	none	113,137	none	none	113,137	none	113,137
35d Soda-water apparatus	22,636	none	8,307	14,329	none	8,474	14,615	23,089
35e Theatrical scenery	5,481	none	5,119	362	none	5,375	380	5,755
36 Office and store furniture and fixtures	295,967	117,360	87,783	90,826	123,228	92,172	95,367	310,767
37 Locomotives and railroad cars	379,748	none	356,076	23,672	none	356,076	23,672	379,748
38 Ships and boats	56,676	none	56,676	none	none	56,676	none	56,676
39 Business motor vehicles	623,135	201,670	95,298	326,167	207,720	98,157	335,952	641,829
40 Aircraft	61,474	27,294	34,180	12	28,113	35,205	12	63,318
41 Professional scientific equipment	145,223	18,495	48,110	78,617	19,050	49,553	80,976	149,579
42 Carpenters' and mechanics' tools	136,622	10,972	32,986	92,664	11,301	33,976	95,444	140,721
43 Durable containers	107,889	4,961	79,635	23,293	5,209	83,617	24,458	113,284
44 Misc. subsidiary durable equipment	231,985	10,401	124,849	96,735	10,713	128,594	99,637	238,944
Total Producers' Durable	6,230,785	607,876	3,096,921	2,525,990	627,574	3,157,854	2,589,461	6,374,889
Total Finished Commodities (excl. 5b)	37,695,018	12,077,613	4,664,154	20,953,255	12,524,192	4,769,156	22,408,326	39,701,674

<sup>1</sup> In a few instances the sum of the distributed sales will be found to differ slightly from total sales. Such discrepancies are the result of not forcing the figures derived from the percentage breakdowns to equal the totals in the basic work.

<sup>2</sup> In this group no distinction is made between wholesalers and retailers; all are classified as dealers. For convenience all sales to dealers have been classified as sales to retailers.

PART III

Note A to Table III—1

INDUSTRIES OR PARTS OF INDUSTRIES IN WHICH INDUSTRIAL SALES WERE ASSUMED TO REPRESENT SALES TO ULTIMATE CONSUMERS

MINOR COMMODITY GROUP	INDUSTRY OR PART	MINOR COMMODITY GROUP	INDUSTRY OR PART
1	101 Beverages, 102 Bread and other bakery products, 104, 105 Canning and preserving; 106 Cereal preparations, 108 Chewing gum, 112 Confectionery, and 118 Ice cream	13	goods: blankets, and 318 Window and door screens
2	1608 Cigars and cigarettes, and 1647 Tobacco, chewing and smoking and snuff	17	302 Billiard and pool tables..., 615 Fireworks, 909 Saddlery and harness, 1106 Firearms, 1403, 1648 Children's carriages and sleds, and toys, games ... <sup>1</sup> and 1642 Sporting and athletic goods
3	611 Druggists' preparations, <sup>1</sup> 627 Patent or proprietary medicines and compounds, <sup>1</sup> 802 Rubber gloves, <sup>1</sup> and 1645 Surgical and orthopedic appliances, incl. artificial limbs	18	1315 Washing machines, wringers... <sup>1</sup>
4	509 Printing and publishing: music	19	202, 237 Asphalted-felt-base floor covering and linoleum, 206 Carpets and rugs, rag, 207 Carpets and rugs, wool, and 232 House-furnishing goods, n.e.c.
7	221 Flags and banners, 226 Handkerchiefs, 242 Regalia, badges, and emblems, 908 Pocketbooks, purses and cardcases, 1609 Combs and hairpins not made from metal or rubber, and 1649 Umbrellas, parasols and canes	20	320 Woodenware, 1017 Red earthenware, 1017 White ware..., 1219 Stamped household ware, and 1219 Vitreous enameled ware
9	208 Clothing (except work clothing), men's, youths' and boys', n.e.c., 211 Clothing, work...men's, 223 Furnishing goods, men's, n.e.c., 224 Gloves and mittens, cloth..., 228 Hats and caps, except felt and straw, men's, 234 Knit goods: hosiery, knit underwear, and knit outerwear, 243 Shirts, 905 Gloves and mittens, leather, and 906 Belts	21	1207 Electric residence fixtures and 1303 Domestic apparatus and appliances
10a	210 Clothing, women's, n.e.c., 215 Corsets and allied garments, 224 Gloves and mittens, cloth..., 234 Knit goods: hosiery, knit underwear and knit outerwear, and 905 Gloves and mittens, leather	22	1303 Radio receiving sets
11	904 Boots and shoes, other than rubber	23	1628 Musical instruments and parts and materials, n.e.c., <sup>1</sup> 1629 Organs, and 1630 Pianos
12	232 House-furnishing goods, n.e.c., 249 Woolen	25	1202 Clocks, clock movements and parts, <sup>1</sup> 1213 Plated ware, and 1214 Silversmithing and silver ware
		28	910 Trunks, suitcases, and bags
		30	1409 Motorcycles, bicycles and parts <sup>1</sup>
		31	1645 Surgical and orthopedic appliances incl. artificial limbs
			1014 Monuments, tombstones, and other articles for cemetery use

<sup>1</sup> In these industries all sales to industrial consumers in excess of the total value of unfinished as previously estimated for the industries were assumed to represent sales to ultimate consumers (see Table I—3).

Note B to Table III—1

INDUSTRIES AND COMMODITIES IN WHICH THE DISTRIBUTION OF SALES WAS ESTIMATED OR BASED ON UNPUBLISHED DATA

MINOR COMMODITY GROUP	INDUSTRY NUMBER AND COMMODITY	BASIS OF ESTIMATE
1	119 Ice, mfd.	Unpublished Census data. Ratios verified by correspondence with the National Association of Ice Manufacturers
Non-manufactured	Fish Fruits and vegetables Dairy products Poultry and eggs	All sales assumed to be through wholesalers
2	312 Matches, books	Sales ratios for entire industry
3	1103 Razor blades	Sales ratios for Industry 628, Perfumes, cosmetics, and other toilet preparations
	1645 Sanitary napkins, dressings, bandages, etc.	Sales ratios for entire industry
	601 Alcohol, ethyl, and distilled liquors	Unpublished Census data
	802 Bathing caps, druggists' and medical sundries, rubber gloves	Sales ratios for rubber gloves

# TOTAL SPREAD IN 1929

MINOR COMMODITY GROUP	INDUSTRY NUMBER AND COMMODITY	BASIS OF ESTIMATE
4	504, 5, 6, 8 Greeting cards	Same ratios as for Industry 1612, Greeting cards
	508, 9, 10 Printing and publishing: paper patterns	Sales ratios for Industry 508, Book printing and publishing
	510 Printing and publishing: newspapers and periodicals	It was assumed that all tri-weekly, bi-weekly and weekly newspapers were sold on a subscription basis, i.e., direct to consumers. The total circulation of such newspapers (reported in the Census of Manufactures) was multiplied by an approximate price of 5 cents. This subscription estimate was then subtracted from the total, and the remainder (sales of daily newspapers) assumed to be sold to retailers. Although some sales of daily papers are undoubtedly direct to consumers, there was no satisfactory method of estimating the amount
	1612 Greeting cards	Sales ratios for the entire industry with industrial sales assumed to be sales to ultimate consumers
	802 Erasers and rubber bands	Sales ratios for Industry 1643, Stationery goods, n.e.c.
	802 Rubber cement	Sales ratios for Industry 621, Mucilage, paste, etc.
	1633 Pencils, lead	Sales ratios for Industry 1643, Stationery goods, n.e.c.
5a	311 Firewood	All sales assumed to be direct to consumers
	312 Matches, other than book	Sales ratios for entire industry
	703 Coke	Sales ratios for Industry 701, Fuel: briquettes and boulets
7	216 Osnaburgs, sheetings, etc.	Interplant transfers (obtained from unpublished Census data) subtracted before the application of sales ratios
	216 Denims, napped fabrics, etc.	Sales ratios for denims
	216 Print cloth, lawns, etc.	Sales ratios for yard goods
	216 Thread and cotton yarns	Interplant transfers (obtained from unpublished Census data) subtracted before the application of sales ratios
	216 Plushes, velvets, etc.	Sales ratios for cotton plushes
	216 Other cotton products	Sales ratios for entire cotton goods industry
	234 Other knit goods	Sales ratios for entire knit goods industry
	235 Lace goods (except Nottingham lace curtains and nets)	Sales ratios for Industry 235, Levers laces
	249, 253 Woolen and worsted woven goods	Sales ratios for the industries recomputed after the subtraction of yarns and waste, and blankets
	249, 253 Woolens and worsted yarns for sale	Interplant transfers (obtained from unpublished Census data) subtracted before the application of sales ratios
	802 Hard-rubber goods (other than battery jars, etc.)	Sales ratios for Industry 1609, Combs and hairpins not made from metal or rubber
	906 Misc. leather products (except belts)	Sales ratios for industry recomputed after subtraction of belts
	1606 Buttons	Sales by types of buttons totaled and sales ratios computed
9	213 Collars, men's	Sales ratios for Industry 243, Shirts
	224, 905 Gloves and mittens, cloth and leather, men's	Data for the two industries combined and sales ratios computed

## PART III

MINOR COMMODITY GROUP	INDUSTRY NUMBER AND COMMODITY	BASIS OF ESTIMATE
	229 Hats, fur-felt, men's	Sales ratios for the industry recomputed after subtraction of industrial sales (such sales being considered to represent hat body sales)
	230 Hats, wool-felt, men's	Sales ratios for Industry 229, Hats, fur-felt
	245 Suspenders, garters, and hose supporters, men's, arm bands, and other elastic woven goods	Sales ratios for the industry recomputed after subtraction of industrial sales
10a	224, 905 Gloves and mittens, cloth and leather, women's	Data for the two industries combined and sales ratios computed
	229 Hats, fur-felt, women's	Sales ratios for the industry recomputed after subtraction of industrial sales
	230 Hats, wool-felt, women's	Sales ratios for Industry 229, Hats, fur-felt
	245 Garters and hose supporters, women's	Sales ratios for the industry recomputed after subtraction of industrial sales
• 10b	1615 Fur goods	Sales ratios for the industry recomputed after subtraction of industrial sales (such sales assumed to be sales of fur trimmings unfinished)
11	802 Rubber heels, soles and soling strips	Sales ratios for entire industry
12	216 Blankets, towels, toweling and wash cloths, bath mats, bedspreads and quilts, cotton table damask, and sheets and pillow cases	Sales ratios for Industry 232, House-furnishing goods, n.e.c.
	218 Dyeing and finishing textiles: sheets	Unpublished Census data
	232 Misc. house-furnishing goods	Sales ratios for entire industry
	241 Oilcloth	Unpublished Census data
	802 Rubber garden hose and rubber mats and matting	Sales ratios for entire industry with industrial sales assumed to be sales to ultimate consumers
	1103 Scissors and shears and pocket knives	Sales ratios for Industry 1103, Pocket knives
	1604 Brooms: household, whisk, toy and hearth	Sales ratios for the industry recomputed after subtraction of industrial sales
	1605 Household brushes	Sales ratios for industrial and household brushes with industrial sales assumed to represent sales to ultimate consumers
	1612 Lamp shades	Sales ratios for entire industry with industrial sales assumed to represent sales to ultimate consumers
13	214 Fish line	Sales ratios for Industry 1642, Fishing apparatus, with industrial sales assumed to represent sales to ultimate consumers
	1636 Cameras	Unpublished Census data
	1636 Photographic apparatus: film, slides . . .	Sales ratios for 'all other industries'
14	802 Tire sundries and repair materials	Sales ratios for entire industry
15	309 Furniture, household	Unpublished Census data
	316 Non-mechanical refrigerators	Sales ratios for the industry recomputed after subtraction of industrial sales
	1403 Baby carriages	Sales ratios for furniture, household (see Industry 309 above)

# TOTAL SPREAD IN 1929

MINOR COMMODITY GROUP	INDUSTRY NUMBER AND COMMODITY	BASIS OF ESTIMATE
16	1119, 1121 Steam and hot water heating apparatus	Data for boilers and radiators combined and sales ratios computed
	1119, 1121 Stoves, ranges, etc.	Data for warm-air furnaces and fuel-oil burners subtracted from total figures for stoves, ranges, furnaces and oil burners and sales ratios computed for the remainder
	1119, 1121 Other heating and cooking apparatus and supplies	Sales ratios for stoves, ranges, etc. (see above)
	1303 Domestic electric ranges 2½ kw. and over, and water heaters, electric	Sales ratios for all domestic electric apparatus and appliances
17a	1303 Vacuum cleaners	} Sales ratios for all domestic electric apparatus and appliances with industrial sales assumed to be sales to ultimate consumers
	1305 Dishwashing machinery	
	1312 Sewing machines, household	Sales ratios for the industry recomputed after subtraction of industrial sales (such sales assumed to be industrial sewing machines)
18	216 Cotton draperies	} Sales ratios for Industry 232, House-furnishing goods, n.e.c.
	216 Rugs (except bath mats) cotton	
	232 Curtains and draperies	} Sales ratios for entire industry
	232 Feather pillows and beds	
	238 Mats and matting	Unpublished Census data
19	802 Rubber jar rings	Sales ratios for entire industry
	1008 Pressed and blown glassware (except containers)	Sales ratios recomputed after subtraction of data for bottles and containers, polished plate glass, milk bottles, obscured and wire glass, and window glass from totals for industry
	1008 Fruit jars (homepack)	Sales ratios recomputed for pressed and blown glassware after subtraction of industrial sales
	1009 Cut and decorated glassware	Sales ratios for the industry recomputed after subtraction of industrial sales
	1017 Other pottery products	Sales ratios for Industry 1017, White ware . . .
	1103 Table and kitchen cutlery	Sales ratios for the industry recomputed after subtraction of data for edge tools and pocket knives; industrial sales then treated as sales to ultimate consumers
	1103 Razors, safety and other	Sales ratios for pocket knives
	1109 Vacuum bottles	Sales ratios for the industry recomputed after subtraction of industrial sales
	1201 Aluminum ware (principally cooking utensils and household articles)	Unpublished Census data
20	1119, 1121 Portable ovens and steam tables	Sales ratios for Industries 1119 and 1121, Stoves . . . furnaces, recomputed after subtraction of data for warm-air furnaces and domestic fuel-oil burners; industrial sales then treated as sales to ultimate consumers
	1207 Portable lamps . . . , kerosene and gasoline lighting equipment, and incandescent mantles	Sales ratios for Industry 1207, Electric residence fixtures
	1303 Electric fans (domestic) and incandescent-filament lamps for domestic use	Sales ratios for all domestic electrical apparatus and appliances
	1303 Dry batteries	Sales ratios for Industry 1303, Dry batteries and flashlight cases recomputed after subtraction of industrial sales



## PART III

MINOR COMMODITY GROUP	INDUSTRY NUMBER AND COMMODITY	BASIS OF ESTIMATE
21	1303 Combination phonographs and radios, and transmitting sets	Sales ratios for radio receiving sets
	1303 All radio parts and equipment	Sales ratios for radio tubes
22	1627 Perforated music rolls	Sales ratios for Industry 1630, Pianos
23	1612 Rhinestone ornaments	Sales ratios for entire industry
26	1408 Passenger cars and chassis	Unpublished Census data
27	1001 Asbestos brake lining and clutch facings	Sales ratios for entire industry
	1109 Vehicle hardware other than locks	Sales ratios for entire industry
	1126 Skid chains	Sales ratios for the industry recomputed after subtraction of industrial sales
	1201 Aluminum motor-vehicle accessories and parts	Sales ratios for Industry 1219, Stamped automotive parts and accessories
	1303 Automotive generators and starter-motors	Sales ratios for Industry 1407, Motor-vehicle bodies and parts
29	1410 Pleasure-craft	Unpublished Census data
30	1631 Ophthalmic products	Sales ratios for the industry recomputed after subtraction of industrial sales
	1645 Artificial limbs and appliances	Sales ratios for entire industry
31	1005 Concrete monuments and grave markers, and burial vaults	Sales ratios for Industry 1014, Monuments, tombstones, etc.
32	1304 Engines, turbines . . . (except traction)	Sales ratios for entire industry
	1309 Pumps . . . (other than used on farms)	Sales ratios for entire industry
	1312 Sewing machines: industrial types	Sales ratios for Industry 1313, Textile machinery
	1610 Dairy, cheese-factory and butter-factory machinery	Sales ratios for Industry 1305, Foundry and machine-shop products, n.e.c., recomputed after subtraction of unfinished sales (as determined from application of industry ratios to total of foundry and machine-shop products incl. in the industrial machinery group)
33	1303 Generators . . . , motor-generator sets and dynamos, power transformers, stationary motors, 1 h.p. and over, industrial and commercial apparatus, measuring instruments and meters . . . , insulated wire and cable, rubber, paper, and cotton, overhead trolley-line material, telephone and telegraph apparatus, rectifying apparatus, other electrical machinery, apparatus and supplies, lightning arrestors, and choke coils, and wet primary batteries	Unpublished Census data
	1303 Searchlights and floodlights	Sales ratios for Industry 1219, Gas and electric fixtures
34a, c	231 Horse blankets . . .	Unpublished Census data
	1112 Horse and mule shoes . . .	Sales ratios for Industry 231, Horse blankets . . .
	1125 Forks, hoes, rakes . . .	Sales ratios for Industry 1301, Agricultural implements and parts
	1127 Barbed wire, poultry netting . . .	
	1303 Self-contained power and lighting outfits not exceeding 5 kw.	
	1305 Lawn mowers	

# TOTAL SPREAD IN 1929

MINOR COMMODITY GROUP	INDUSTRY NUMBER AND COMMODITY	BASIS OF ESTIMATE
	1309 Farm pumps and parts	Sales ratios for the industry recomputed after subtraction of data for power pumps and gasoline pumps
	1610 Dairymen's, poultrymen's and apiarists' supplies	Data for the three types of supplies combined and sales ratios computed
34b	1304 Tractors . . .	Unpublished Census data
35a	1303 Commercial and industrial electric fans	Sales ratios for Industry 1302, Cash registers and adding . . . machines
	1305 Addressing and mailing machines, check-writing machines, and manifolding machines	Unpublished Census data
	1311 Scales and balances	Unpublished Census data
35b	1305 Vending machines	Unpublished Census data
35c	1640 Signs and advertising novelties	All sales assumed to be direct to consumers
36	309 Furniture and fixtures for offices and stores, and business furniture made in other industries, and lockers	Sales ratios for Industry 309, Furniture: office
	316 Commercial refrigerators, non-mechanical	Unpublished Census data
	1310 Commercial refrigerators, mechanical	Sales ratios for industry recomputed after subtraction of sales to retailers and household consumers (such sales assumed to be sales of domestic refrigerators)
37	1303 Electric locomotives 1405 Cars . . . and parts 1406 Locomotives . . . and parts	} All sales except exports assumed to be direct to railroads
38	1411 Ships and boats	
39	1408 Government vehicles, public conveyances, commercial vehicles, trailers, and commercial and bus chassis	
40	1401 Aircraft, heavier than air, parachutes, propellers and other aeronautical products, and parts and engines for sale as such	Sales ratios for entire industry
41	1009 Scientific glass apparatus 1303 Laboratory testing and scientific instruments	} Sales ratios for Industry 1620, Instruments, professional and scientific
	1303 Electrotherapeutic and electromedical apparatus	
	1620 Instruments, professional and scientific	
	1631 Optical instruments and parts and other optical goods	Sales ratios for entire industry
42	1125 Tools (excl. farm tools)	Sales ratios for entire industry
43	314 Wooden tanks and vats 1008 Beverage containers, pressure ware	Sales ratios for Industry 1120, Steel barrels, kegs, and drums Sales ratios for Industry 1008, Bottles and containers . . .
	1123 Ice-cream cans and milk cans	Sales ratios for Industry 1008, Milk bottles
44	214 Rope, cable, and cordage	Sales ratios for entire industry
	802 Fire hose	Sales ratios for Industry 1206, Fire extinguishers, chemical

# PART III

MINOR  
COMMODITY  
GROUP

INDUSTRY NUMBER  
AND  
COMMODITY

BASIS OF ESTIMATE

1006	Crucibles	}	Sales ratios for Industry 1004, Clay products: fire brick
1011	Chemical stoneware and porcelain		
1017	Saggers		
1011	Grindstones . . .	}	Sales ratios for Industry 1007, Emery wheels and other abrasives appliances
1012	Hones, whetstones . . .		
1103	Other cutlery . . .		Sales ratios for Industry 1103, Edge tools
1109	Padlocks		Sales ratios for entire industry
1604	Industrial brooms		Sales ratios for Industry 901, Belting, leather
1636	Misc. photographic equipment		Unpublished Census data

Table III—2

IMPORTS AND EXPORTS OF FINISHED COMMODITIES,  
MINOR COMMODITY GROUPS, 1929

This table provides the list of specific commodities included under each minor commodity group. Unlike the values in Table II—4, the export values here are at export prices as given in the annual Department of Commerce reports, *Foreign Commerce and Navigation of the United States*.

## PART III

Table III—2

IMPORTS AND EXPORTS OF FINISHED COMMODITIES  
(thousands of dollars)

IMPORTS		EXPORTS
1 Food and Kindred Products		
Dollar volume:	237,543 <sup>1</sup>	535,376
Commodity coverage:		
Meat products (except sausage casings); animal oils and fats, edible; dairy products; fish; eggs of poultry, other edible animal products; grain preparations; vegetables and preparations; fruits and nuts; vegetable oils and fats, edible; cocoa, coffee and tea (except cocoa beans and green coffee); spices, sugar and related products; beverages; and salt in bags, sacks, barrels, or other packages		Meat products (except sausage casings); lard and substitutes; oleomargarine . . . ; dairy products; fish; other edible animal products; grain preparations; vegetables and preparations; fruits and nuts; vegetable oils and fats, edible (except cotton seed oil); cocoa and coffee (except green coffee); spices, sugar and related products; beverages; baking powder; salt; corn starch and corn flour
<sup>1</sup> The actual total was \$360,262 thousand; from this total, however, the amount used in manufacturing (unfinished) had to be removed. Such an estimate, \$122,719 thousand, was obtained from Table 23 of <i>Materials Used in Manufactures, 1929</i> (Department of Commerce, Bureau of the Census, Washington, 1933).		
2 Cigars, Cigarettes and Tobacco		
Dollar volume:	8,956	19,495
Commodity coverage:		
Tobacco manufactures; matches in books or folders . . . ; and pipes and smokers' articles		Tobacco manufactures
3 Drug, Toilet and Household Preparations		
Dollar volume:	16,482	66,108
Commodity coverage:		
Safety-razor blades; druggists' sundries of rubber and gutta-percha; coal-tar medicinals; medicinal and pharmaceutical preparations; epsom salts; mineral oil medicinal; hydrogen peroxide or dioxide; chemicals, drugs, and similar substances in capsules, pills, tablets . . . ; and soap and toilet preparations (except perfume materials, not mixed or compounded)		Finished coal-tar products; medicinal and pharmaceutical preparations (except biologics for animal use . . . and veterinary preparations); household insecticides, disinfectants, deodorants . . . ; petroleum jelly; polishes; other industrial chemical specialties; hydrogen peroxide or dioxide; sal soda; sodium bicarbonate; soap and toilet preparations; safety-razor blades; sorbent cotton, gauze, and sterilized bandages; rubber ware, bottles and fountain syringes; rubber gloves; other druggists' rubber sundries, and bathing caps
4 Magazines, Newspapers, Stationery and Supplies and Miscellaneous Paper Products		
Dollar volume:	5,257	38,212
Commodity coverage:		
Writing, letter, note, drawing and similar paper weighing 7 lbs. or over per ream; albums, photographs, autographs, etc.; envelopes, writing, letter, note, etc.; masks of paper . . . ; newspapers and periodicals unbound; maps, charts, blank and slate books; playing cards; fashion magazines or periodicals; greeting cards; post cards; pencils; and pens and penholders		Surface-coated paper; tissue and crepe paper; toilet paper; paper towels and napkins; filing folders, index cards . . . ; paper tape; other writing paper; paper bags; boxes and cartons; envelopes; cash-register and adding-machine paper; other paper and paper products; rubber bands and erasers; pencils and pens; writing ink; paste and mucilage; other office supplies; and books, maps, pictures, and other printed matter (except books and pamphlets)
5a Fuel and Lighting Products, Manufactured and Petroleum Products		
Dollar volume:	5,926	87,459
Commodity coverage:		
Firewood; matches; briquets and other composition coals for fuel; candles; and illuminating oil		Matches; candles; and kerosene

# TOTAL SPREAD IN 1929

## IMPORTS

## EXPORTS

### 5b Coal

no correction necessary

### 6a Caskets and Coffins

none

none

### 7 Dry Goods and Notions

Dollar volume:

66,055<sup>2</sup> 112,970

Commodity coverage:

Finished commodities:

Handkerchiefs and mufflers (cotton); handkerchiefs of vegetable fiber other than cotton; umbrellas; silk handkerchiefs and mufflers; bone combs of horn; hard-rubber combs; and combs, pyroxylin

Mixed commodities:

Cotton sewing thread; crochet, darning, embroidery and knitting cotton; cotton cloth; velvets and velveteens; other plushes and corduroys; plush and velvet ribbons; laces, embroideries, etc. (except curtains); cotton bandings and bindings; fabrics and fast edges; cords and tassels; braids of cotton; lacings, boot, shoe and corset; mop cloths, dust and polishing cloths; knit fabrics in the piece, of vegetable fiber; other articles and manufactures of cotton, n.s.p.f.; flax, hemp, etc., woven fabrics (except table damask and table cloths); laces, embroideries, etc., of vegetable fiber (except cotton); woven articles and manufactures of flax, n.s.p.f.; braids . . . of vegetable fiber (except cotton); yarns of wool; wool fabrics; wool laces and lace articles; manufactures of wool, n.s.p.f.; hair manufactures; fabrics of silk; silk ribbons, bandings, etc.; silk laces, embroideries, etc.; sewing silk; silk knit fabrics in the piece; other manufactures of silk; rayon braids; rayon woven fabrics; knit fabrics; laces; embroideries; knit goods; plushes; velvets; ribbons; etc.; artificial or imitation horsehair (incl. pyroxylin), braids, embroideries, knit goods, ribbons, etc.; viscra, cellophane and other cellulose braids, knit goods, ribbons, etc.; artificial and ornamental flowers, etc.; artificial flowers of yarns, thread; needles; buttons; beads and bead ornaments; pins; and hooks and eyes

Feathers, dressed and mfrs. thereof; pocketbooks, handbags, cigarette and key cases; cotton carded yarn, not combed; cotton combed yarn; cotton sewing thread; crochet, darning and embroidery cotton; cotton cloth, unbleached (gray); cotton cloth, bleached; cotton cloth, colored; cotton fabrics, sold by the pound; cotton handkerchiefs; cotton laces, embroideries, etc.; other cotton mfrs.; wool yarns; wool cloth and dress goods; mohair cloth; other wool fabrics; hair mfrs.; sewing, embroidery and crochet silk; fabrics, wholly or chiefly silk; embroidery, crochet and knitting thread, rayon; tapestry and drapery fabrics, rayon; woven and knit dress and piece goods, rayon; ribbons, braids, etc., rayon; hat trimmings; artificial flowers, etc.; other textile manufactures; umbrellas and parasols; needles, hand and machine; buttons; and notions

<sup>2</sup> The actual value of finished was \$17,100 thousand; that of mixed, \$195,820 thousand. On the basis of the approximate breakdown at the manufacturing stage of the mixed portions of this group, only 25 per cent of the mixed total was treated as finished, i.e., \$48,955 thousand.

### 9 Clothing and Furnishings, Men's and Boys' <sup>3</sup>

Dollar volume:

20,261 26,793

Commodity coverage:

Leather gloves, men's; cotton hosiery (20%); cotton underwear and wearing apparel, n.s.p.f. (50%); men's shirts, cotton; collars and cuffs, cotton; other cotton clothing (50%); garters, suspenders and braces (70%); wool hose and half hose; wool knit underwear and outerwear (50%); wool-felt hats (60%); other wool clothing and wearing apparel (50%); men's silk shirts and collars; hats of straw (products of Philippine Islands straw etc.); blocked or trimmed hats; hats of ramie hat braids; paper imitation panama hats; sewed straw hats (men's); harvest hats; and fur-felt hats for men

Men's socks, cotton; collars and cuffs; cotton overalls, breeches and pants; shirts; overcoats, suits and pants; men's socks, silk; men's socks, rayon; men's and boys' fur-felt hats and caps; suspenders and braces; underwear, cotton (50%); cotton sweaters, shawls, etc. (50%); other cotton clothing (50%); wool knit goods (50%); waterproofed outer garments (50%); pajamas, night-shirts and gowns (50%); hats of straw, palm leaf, etc. (50%); wool-felt hats (60%); garters and arm bands (50%); and leather gloves (50%)

### 10a Clothing, Women's, Misses' and Children's <sup>3</sup>

Dollar volume:

69,230 14,913

Commodity coverage:

Leather gloves, women's and children's; cotton gloves; cotton hosiery (80%); wearing apparel, cotton, of lace; cotton underwear and wearing apparel, n.s.p.f. (50%); wearing apparel of cotton, embroidered, tamboured, etc.; corsets and brassieres; other cotton clothing, etc. (50%); cotton wearing apparel, prod-

Cotton gloves, hosiery, women's and children's; underwear (50%); sweaters, shawls, etc. (50%); dresses, skirts and waists; other cotton clothing (50%); wool knit goods (50%); women's and children's wool clothing; silk wearing apparel (except men's socks); rayon women's and children's hosiery; rayon knit underwear;

<sup>3</sup> The percentages in parentheses following certain commodities in Minor Groups 9 and 10a are rough apportionments between men's and women's wear based on approximate production ratios.

# PART III

## IMPORTS

uct of Philippine Islands; garters, suspenders and braces (30%); flax, hemp, etc., corsets and brassieres, and other wearing apparel; wool gloves and mittens; wool knit underwear and outerwear (50%); wool-felt hats (40%); other wool clothing and wearing apparel (50%); silk wearing apparel (except men's shirts and collars); sewed straw hats (except men's); fur-felt hats for women and children

## EXPORTS

waterproofed outer garments (50%); corsets, brassieres, and girdles; pajamas, nightshirts and gowns (50%); hats of straw, palm leaf, etc. (50%); wool-felt hats (40%); garters and arm bands (50%); and leather gloves (50%)

### 10b Furs and Fur Goods

Dollar volume:	952	835
Commodity coverage:		
Manufactures of fur (except cut fur for hatters' use, and plates and mats)		Fur wearing apparel; and other fur manufactures

### 11 Shoes and Other Footwear

Dollar volume:	18,467	25,010
Commodity coverage:		
Leather footwear		Leather boots and shoes; and rubber footwear

### 12 Miscellaneous House Furnishings

Dollar volume:	26,263	8,029
Commodity coverage:		
Brooms; cotton table damask and manufactures; cotton blankets; table and bureau covers, etc.; jacquard woven blankets; quilts or bedspreads; mop cloths, etc.; sheets and pillowcases; towels, not terry woven; flax, hemp, etc., table damasks and manufactures of; table cloths and napkins in sets; towels and napkins; sheets and pillowcases; wool blankets, automobile robes, etc.; wool screens, hassocks, etc.; oilcloth, except for floors; window hol-lands; picture frames; porch and window blinds, shades or screens of bamboo, etc.; mirrors, n.s.p.f.; scissors, shears, etc.; sculptures, statuary and copies, replicas, etc.; pen, pocket knives, etc. (completely finished); and brushes		Brooms; cotton quilts, comforts, counterpanes, etc; cotton bed sheets, etc.; cotton towels, bath mats and wash cloths; cotton blankets; cotton damasks; oilcloth; scissors and shears; pyroxy- lin manufactures; and brushes

### 13 Toys, Games and Sporting Goods

Dollar volume:	22,789	34,714
Commodity coverage:		
Harness, saddles and saddlery; swords, sword blades and side arms; toys, athletic and sporting goods; pistols; rifles; shot-guns; air rifles; cameras; sensitized films . . . 1 3/8 in. . . wide; dry plates; photographic paper; and firecrackers and other fireworks		Leather harness and saddles; rubber toys, balls and balloons; boat oars and paddles; other cameras; stereopticons, magic lan- terns, etc.; parts of cameras, except lenses; other sensitized films, not exposed; dry plates; photographic paper; other photographic apparatus and supplies; toys, athletic and sporting goods; fire- arms and ammunition; and billiard tables and accessories

### 14 Tires and Tubes

Dollar volume:	110	40,765
Commodity coverage:		
Rubber tires, automobile, motorcycle and bicycle		Automobile casings; automobile inner tubes; other casings and tubes; solid tires; tire sundries and repair materials

### 15 Household Furniture

Dollar volume:	7,430	8,232
Commodity coverage:		
Furniture of rattan, reed, grass, osier and willow; and house or cabinet furniture, wood		Furniture of wood, chairs; other wood, willow and wicker furni- ture; metal beds and bed springs; other metal furniture; and refrigerators, non-mechanical

### 16 Stoves, Ranges and Water Heaters

Dollar volume:	none	5,975
Commodity coverage:		
		Coal and wood cooking stoves and ranges; heating stoves and warm-air furnaces; gas stoves, ranges and water heaters; kerosene cooking stoves and ranges; gasoline cooking stoves and ranges; house-heating boilers and radiators; oil burners and parts; and electric cooking ranges

# TOTAL SPREAD IN 1929

## IMPORTS

### 17a Washing Machines, Sewing Machines, etc.

Dollar volume: 359 10,057

Commodity coverage:

Sewing machines (valued not over \$75.00)

Electric household washing machines; vacuum cleaners; other motor-driven household devices; and sewing machines for domestic use

### 17b Domestic Refrigerators, Mechanical

Dollar volume: none 9,945

Commodity coverage:

Refrigeration sets up to ¼ ton capacity

### 18 House Furnishings (durable)

Dollar volume: 45,075 4,186

Commodity coverage:

Cotton tapestries; cotton lace window curtains; cotton carpets, carpeting, mats and rugs; 'hit and miss' rag rugs; jute carpets, carpeting; carpets, carpeting, etc. of flax or hemp; fiber floor coverings; carpets, carpeting, etc. of wool; linoleum; and floor oilcloth

Carpets and rugs of wool; linoleum; felt base floor coverings; mattresses, cotton, kapok, moss and hair; tapestry and drapery fabrics, rayon; and cotton tapestries and other upholstery goods

### 19 China and Household Utensils

Dollar volume: 34,472 5,654

Commodity coverage:

Glass products: table and kitchen articles and utensils; glassware, cut, engraved, ornamented or decorated; Christmas tree ornaments; bulbs for electric lamps; illuminating glassware; china and porcelain table, toilet and kitchen ware; earthen, pottery and stoneware, table, toilet or kitchen ware; common yellow, brown stoneware decorated and manufactures; Rockingham earthen ware; thermostatic bottles; table, kitchen and cutlery with handles; razors, safety and other; table, household . . . utensils, and hollowware, iron and steel, n.s.p.f.; table, household . . . aluminum; table, household . . . copper; table, household . . . brass; and spring clothespins

Table glassware, plain; table and other glassware, cut or engraved; china and porcelain ware, table, toilet and kitchen ware; lamp chimneys and lantern globes; globes and shades for lighting fixtures; woodenware; kitchen and table cutlery; razors, safety; aluminum table, kitchen and hospital utensils; and enameled household ware

### 20 Portable Household Electrical Appliances and Other Supplies

Dollar volume: 1,624 11,248

Commodity coverage:

Electric lamps (except neon, mercury and medical); table, household . . . utensils, containing electrical heating elements; and candles, incandescent

Other dry batteries; electric fans; electric lamps (except searchlights) electric flatirons; other domestic heating and cooking devices; and lamps and illuminating devices except electric

### 21 Radio Apparatus and Equipment

Dollar volume: 176 27,620

Commodity coverage:

Radio apparatus and parts

Radio B and C batteries (dry); flashlight batteries; and radio apparatus

### 22 Musical Instruments

Dollar volume: 5,802 18,931

Commodity coverage:

Pianos and organs (except parts); phonographs, graphophones, etc.; needles for same; records; band instruments; violins, violas, etc. (assembled), pitch pipes, tuning forks, etc.; tuning pins; and musical instruments . . . and accessories, n.s.p.f.

Musical instruments

### 23 Jewelry, Silverware, Clocks and Watches

Dollar volume: 120,182 7,466

Commodity coverage:

Precious stones, pearls and imitations (except diamonds for laziers, etc.); pewter manufactures, jewelry, valued above 20¢ per dozen pieces; metal articles and parts for wearing on or about the person . . . (except stampings, etc. and parts); plated ware except cutlery and jewelry; gold mfrs., n.s.p.f.; sterling-silver tableware; silver manufactures, n.s.p.f.; gold-lacquered articles; clocks, except cases and parts; watches, except cases, parts and dials; and recorders, except parts and materials

Precious stones, incl. pearls; jewelry; silver-plated tableware; other silver-plated ware; gold-plated articles; gold manufactures, n.e.s.; silver manufactures, n.e.s.; and clocks and watches (except parts reported separately)



# PART III

## IMPORTS

## EXPORTS

### 24 Printing and Publishing: Books

Dollar volume:	2,336	13,607
Commodity coverage:		
Books and pamphlets printed wholly or chiefly in languages other than English; bibles; books, pamphlets and music, in raised print, for the blind		Books and pamphlets

### 25 Luggage

Dollar volume:	6,126	827
Commodity coverage:		
Leather bags, baskets, belts, satchels, etc.; and leather bags, baskets . . . furnished		Leather traveling bags and suit cases

### 26 Passenger Cars

Dollar volume:	1,505	234,292
Commodity coverage:		
Automobiles and chassis		Passenger cars and chassis

### 27 Auto-parts and Accessories

no correction necessary

### 28 Motorcycles, Bicycles and Accessories

Dollar volume:	57	4,983
Commodity coverage:		
Motorcycles and bicycles		Bicycles, motorcycles and parts

### 29 Pleasure-craft

Dollar volume:	303	1,182
Commodity coverage:		
Motor boats		Motor boats with engines installed

### 30 Ophthalmic Products and Surgical and Orthopedic Appliances

Dollar volume:	233	2,057
Commodity coverage:		
Spectacles, eyeglasses, goggles, and frames; and lenses . . . for spectacles		Spectacles, eyeglasses, lenses and frames; lenses not fitted to instruments; and surgical appliances, artificial limbs, etc.

### 31 Monuments and Tombstones

Dollar volume:	none	none
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### 32 Industrial Machinery and Equipment

Dollar volume:	28,849	261,243
Commodity coverage:		
Twist drills, reamers, cutters, etc.; and industrial, office and printing machinery (excl. locomotives, marine, automobile, and airship engines and repairs, sewing machines (under \$75), anti-friction bearings, typewriters and parts, cash registers and parts, lawn mowers, calendar rolls, and combined adding and typewriting machines)		Industrial machinery (excl. locomotives and parts, boilers and steam specialties, condensers, heaters and accessories, gasoline locomotives, marine engines, elevators, domestic sewing machines, refrigerating equipment, and ball and roller bearings, printing machinery; pumps for gasoline and oil; and portable electric tools

### 33 Electrical Appliances, Industrial and Commercial

Dollar volume:	1,579	46,982
Commodity coverage:		
Electrical machinery and apparatus (excl. electric lamps, fans and blowers, table and household utensils, therapeutic apparatus, radio apparatus, spark plugs and batteries); telegraph, telephone and other insulated wire; and submarine cable		Electrical machinery and apparatus (excl. batteries, motors under 1 h.p., railway motors, locomotives, portable electric tools, all electrical appliances, except industrial furnaces and ovens, radio apparatus and other electric apparatus); insulated iron and steel wire and cable; insulated copper wire and cable

### 34a, c Farm Machinery and Equipment and Business Wagons

Dollar volume:	9,989	71,708
Commodity coverage:		
Barbed wire; shovels, spades, scoops, etc., scythes, sickles, etc.;		Agricultural machinery and implements (except tractors); barbed

# TOTAL SPREAD IN 1929

## IMPORTS

horse, mule or ox shoes; and agricultural machinery and im-  
plements

## EXPORTS

wire and woven wire fencing; horseshoes; hand hoes and rakes;  
shovels and spades; wagons and drays; wheelbarrows; and push-  
carts and hand trucks

### 34b Tractors and Tractor Engines

Dollar volume: none 62,058  
Commodity coverage: Tractors

### 35a Office and Store Equipment

Dollar volume: 159 56,292  
Commodity coverage: Typewriters and parts; cash registers and parts; and combined  
adding and typewriting machines Office appliances; scales and balances; and coin-operated scales

### 35b Vending Machines

Dollar volume: none 381  
Commodity coverage: Vending machines

### 35c Signs

Dollar volume: none none

### 35d Soda-water Apparatus

Dollar volume: none 619  
Commodity coverage: Soda-fountain equipment

### 35e Theatrical Scenery

Dollar volume: none none

### 36 Office and Store Furniture and Fixtures

Dollar volume: none 9,132  
Commodity coverage: Office furniture, wood; store fixtures, wood; school and church  
furniture, wood; filing cases, metal; safes and cabinets; bank and  
safety-deposit vaults; other office furniture and fixtures, metal;  
and commercial refrigerators (all over 1/4 ton capacity)

### 37 Locomotives and Railroad Cars

Dollar volume: none 23,672  
Commodity coverage: Electric locomotives; locomotives; locomotive parts and acces-  
sories; railway cars (excl. air-brake equipment)

### 38 Ships and Boats

Dollar volume: none none

### 39 Business Motor Vehicles

Dollar volume: none 112,306  
Commodity coverage: Electric trucks and passenger cars; motor trucks, busses, and  
chassis; trailers; and automotive fire engines

### 40 Aircraft

Dollar volume: 1,815 9,126  
Commodity coverage: Airplanes and hydroplanes, and parts Airplanes, seaplanes, and other aircraft; engines for aircraft; and  
parts, excl. tires

### 41 Professional and Scientific Equipment

Dollar volume: 6,557 12,562  
Commodity coverage: Glass articles and utensils for chemical, scientific . . . purposes;  
therapeutic apparatus and x-ray machines; optical goods (except  
spectacles . . . and lenses for spectacles); dental and surgical  
instruments; and philosophical, scientific and laboratory instru-  
ments . . . Chemical glassware; electrical therapeutic apparatus, x-ray ma-  
chines, etc.; other optical goods; dental instruments and sup-  
plies; teeth; dental office equipment; surgical and medical in-  
struments; surveying and engineers' instruments; and other  
scientific . . . apparatus

# PART III

## IMPORTS

## EXPORTS

### 42 Carpenters' and Mechanics' Tools

Dollar volume:

1,701 17,183

Commodity coverage:

Tools

Tools (except hand hoes and rakes, and shovels and spades)

### 43 Durable Containers

Dollar volume:

2,470 none

Commodity coverage:

Baskets; and steel tanks, drums, etc.

### 44 Miscellaneous Subsidiary Durable Equipment

Dollar volume:

3,692 8,297

Commodity coverage:

Cordage, incl. cables tarred or untarred; grindstones, hones, whetstones, etc; wheels, files and other mfrs. of emery and corundum; print rollers and blocks . . . ; crucibles, graphite; chemical porcelain ware; chemical stoneware; gill nettings, nets, webs and seines; nets for other trawl fishing; padlocks; paint brushes; pruning and sheep shears . . . ; clippers, nail, barbers' and animal; table, kitchen and butchers' cutlery (handles 4 inches or over, or blades 6 inches or over); hunting, curriers', farriers' . . . knives; cuticle and corn knives . . . ; and planing-machine, tannery . . . knives

Cordage, except of cotton and jute; leather belting; grindstones; other natural abrasives, hones and whetstones; chemical fire extinguishers (hand); other cutlery and parts; motion-picture cameras and projectors; crucibles, clay and graphite; padlocks; wheels of emery and corundum; paint brushes

Table III—3

FINISHED PRODUCTS IN WHOLESALE TRADE,  
MINOR COMMODITY GROUPS, 1929

This table shows the cost to wholesalers of finished commodities purchased in 1929 (including transportation charges and imports), sales by wholesalers (estimated by the volume of sales and the mark-up methods), and the distribution of sales among exports, sales to ultimate consumers and sales to retailers. The steps in estimating wholesale sales by the volume of sales method and in determining the distribution of sales are described in Note A. The derivation of the wholesale margins used in the mark-up method is shown in Note B.

Comments on this table will be found in the Preface to Part III, Section 2.

Table III-3  
FINISHED COMMODITIES IN WHOLESALE TRADE  
(dollar values in thousands)

Minor Commodity Group	Cost to Wholesalers incl. Transportation Charges and Imports	Sales by Wholesalers Shown by Census		Percentage Mark-up Shown by Comparison of (4) and (2)	Percentage Mark-up Derived from Other Data	Estimated Sales by Wholesalers	Distribution of Sales by Wholesalers		
		Total (projected)	Total Adjusted for Duplication and for Sales to Industrial Consumers				Exports	Direct to Ultimate Consumers	To Retailers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<b>Perishable</b>									
1 Food and kindred products	9,560,664	18,055,530	13,759,226	44	12.7	10,774,868	535,376	96,974	10,142,518
2 Cigars, cigarettes and tobacco	1,218,364	1,863,357	1,856,975	52	8.7	1,324,362	19,495	17,217	1,287,650
3 Drug, toilet and household preparations	792,422	1,222,457	1,114,955	41	23.2	976,264	66,108	14,644	895,512
4 Magazines, newspapers, stationery and supplies, and misc. paper products	380,698	623,101	399,271	5	31.1	499,095	38,212	6,987	453,896
5a Fuel and lighting products, manufac-	1,105,328	no comparable data	no comparable data		17.9	1,303,182	87,459	26,365	1,189,358
5b tured and petroleum products	29,523	no comparable data	no comparable data		32.1	39,000	none	none	39,000
6a Misc. perishable: caskets and coffins	13,086,999	no comparable data	no comparable data		14.0	14,916,771	746,650	162,187	14,007,934
<b>Total Perishable</b>									
<b>Semidurable</b>									
7 Dry goods and notions	780,714	4,397,083	1,217,318	56	15.7	903,286	112,970	7,226	783,090
9 Clothing and furnishings, men's and boys'	660,731	726,556	613,431	negative	17.8	778,341	26,793	21,015	730,533
10a Clothing, women's, misses' and children's	687,903	1,065,802	774,025	13	18.3	813,789	14,913	7,324	791,552
10b Furs and fur goods	72,664	104,268	84,336	16	19.5	84,336	10,964	10,964	72,537
11 Shoes and other footwear	592,514	637,343	609,220	3	15.2	682,576	25,010	5,461	652,105
12 Misc. house furnishings	213,429	no comparable data	no comparable data		20.3	256,755	8,029	8,780	239,996
13 Toys, games and sporting goods	216,304	no comparable data	no comparable data		23.2	266,487	34,714	11,459	220,314
14 Tires and tubes	358,289	no comparable data	no comparable data		17.9	422,423	40,765	4,224	377,434
<b>Total Semidurable</b>	3,582,148				17.5	4,207,993	264,029	76,403	3,867,561
<b>Consumers' Durable</b>									
15,36 Household furniture and office and store furniture	277,068	356,043	265,541	negative	20.2	333,036	17,364	7,660	308,012
16 Stoves, ranges and water heaters	78,109	no comparable data	no comparable data		28.7	100,526	5,975	11,762	82,789
17a Washing machines, sewing machines, etc.	63,002	no comparable data	no comparable data		18.5	74,657	10,057	2,240	62,360
17b Domestic refrigerators, mechanical	125,364	129,190	103,969	negative	30.5	163,600	9,945	23,722	129,933
18 House furnishings (durable)	318,548	no comparable data	no comparable data		15.6	368,241	4,186	7,365	356,690
19 China and household utensils	176,120	no comparable data	no comparable data		34.6	237,058	5,654	26,788	204,616
20 Portable household electric appliances and other supplies	80,119	no comparable data	no comparable data		18.5	94,941	11,248	2,848	80,945

Minor Commodity Group	Cost to Wholesalers incl. Transportation Charges and Imports	Sales by Wholesalers Shown by Census		Percentage Mark-up Shown by Comparison of (4) and (2)	Percentage Mark-up Derived from Other Data	Estimated Sales by Wholesalers	Distribution of Sales by Wholesalers		
		Total (projected)	Adjusted for Duplication and for Sales to Industrial Consumers				Exports	Direct to Ultimate Consumers	To Retailers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
21 Radio apparatus and equipment	357,174	599,707	459,607	29	20.2	429,323	27,620	2,147	399,556
22 Musical instruments	65,580	67,874	53,647	negative	46.4	96,009	18,931	10,657	66,421
23 Jewelry, silverware, clocks and watches	286,480	537,833	441,167	54	20.9	346,354	7,466	5,888	333,000
24 Printing and publishing: books	57,067	no comparable data	no comparable data	46.2	20.9	83,432	13,607	2,670	67,155
25 Luggage	20,409	no comparable data	no comparable data	29.7	29.7	26,470	827	212	25,431
26 Passenger cars	1,658,804	no comparable data	no comparable data	123	none	1,658,804	234,892	346,690	1,077,822
27 Auto-parts and accessories	328,084	1,157,092	732,016		28.5	421,588	none	11,804	409,784
28 Motorcycles, bicycles and accessories	8,223	no comparable data	no comparable data		33.3	10,964	4,983	none	5,981
29 Pleasure-craft				See Table III-4					
30 Ophthalmic products and surgical and orthopedic appliances	33,878	no comparable data	no comparable data		46.0	49,462	2,057	198	47,207
31 Monuments and tombstones	34,324	no comparable data	no comparable data		23.6	42,424	none	14,935	27,489
Total Consumers' Durable	3,967,353				14.4	4,536,889	374,212	477,586	3,685,091
Producers' Durable									
32 Industrial machinery and equipment	1,191,408	no comparable data	no comparable data		19.2	1,420,158	261,243	1,158,915	none
33 Electrical appliances, industrial and commercial	183,183	no comparable data	no comparable data		10.7	202,784	46,982	111,937	43,865
34a,c Farm machinery and wagons	300,093	297,632	255,253	negative	18.1	354,410	71,708	43,238	239,464
34b Tractors	126,817	no comparable data	no comparable data		23.2	156,239	62,058	19,061	75,120
35a Office and store equipment	54,787	85,521	64,659	18	19.0	64,659	56,292	8,367	none
35b Vending machines	3,248	no comparable data	no comparable data		50.0	4,872	381	4,491	none
35c Signs	none	none	none						
35d Soda-water apparatus	14,615	no comparable data	no comparable data		33.3	19,487	619	18,868	none
35e Theatrical scenery	380	no comparable data	no comparable data		33.3	507	none	507	none
36 Office and store furniture and fixtures	23,672	no comparable data	no comparable data	Included with Group 15		23,672			
37 Locomotives and railroad cars	none	none	none						
38 Ships and boats	335,952	no comparable data	no comparable data						
39 Business motor vehicles									
40 Aircraft									
41 Professional and scientific equipment	87,633	108,367	104,594	19	none	335,952	112,306	79,957	143,689
42 Carpenters' and mechanics' tools	97,145	no comparable data	no comparable data		30.4	114,273	12,562	74,024	27,687
43 Durable containers	26,928	no comparable data	no comparable data		23.5	119,974	17,183	35,632	67,159
44 Misc. subsidiary durable equipment	103,329	no comparable data	no comparable data		23.5	127,611	8,297	119,314	none
Total Producers' Durable	2,549,190				16.8	2,977,854	673,303	1,707,567	596,980
Total Finished Commodities	23,186,090				14.9	26,639,507	2,058,194	2,423,743	22,157,570

## Note A to Table III—3

## DERIVATION OF WHOLESALERS' SALES BY MINOR COMMODITY GROUPS

This derivation involved the following steps:

a. The commodity sales data reported in Table 13 of the *U. S. Summary of Wholesale Distribution* were arranged in groups most comparable with our minor commodity groups:

MINOR COMMODITY GROUP	COMPARABLE COMMODITY DIVISION REPORTED IN TABLE 13 OF THE U.S. SUMMARY OF WHOLESALE DISTRIBUTION
1	Bakery products (cakes, biscuits, crackers, etc.) Canned goods (food products) Confectionery and soft drinks Dairy products and eggs Fish and sea foods, fresh and processed Food products n.c.e. Fruits and vegetables, fresh and dried Groceries Meats and meat products, fresh and cured
2	Cigars, cigarettes and tobacco (except leaf)
3	Drugs and drug sundries Soaps and toilet preparations
4	Paper products Stationery and stationery supplies
5a	It was not possible to make use of the petroleum and petroleum products division as reported owing to the difficulty of distinguishing between sales of petroleum products for passenger-car use and for commercial-vehicle use.
5b	Because of the method of estimating used above (see Table II—1, (d) and (e)) no distribution of sales was needed for coal. Thus no attempt was made to adjust the coal and coke data reported in Table 13.
7	Dry goods n.c.e. Notions and dry goods, small wares Piece goods, all kinds Textile products n.c.e. Yarns
9	Clothing and furnishings, men's and boys'
10a	Clothing, women's and children's
10b	Furs (dressed) and fur clothing
11	Shoes and other footwear (incl. rubber)
13	Although commodity divisions are shown in Table 13 for cameras and photographic supplies, sporting goods and toys and games, the data derived therefrom cannot be considered comparable because of the inclusion of an indeterminate amount of moving-picture film, and the exclusion of saddlery and harness.
15, 36	Comparable commodity data were available only for all furniture, wooden and metal; it was thus necessary, in tracing the flow through the wholesale and retail channels, to combine the household and office furniture groups.
17b	Refrigerators, mechanical (household and commercial)
19	No comparable data; the china, glassware and crockery division as shown is too limited for a satisfactory comparison.
21	Data from special Census bulletin, <i>Wholesale Distribution (Trade Series)</i> , <i>Radio Sets, Parts and Accessories</i>
22	Musical instruments and parts (except radios)
23	Jewelry
27	Automotive equipment, parts and accessories (probably includes tires and tubes, therefore not exactly comparable)
30	No comparable data; the optical goods division of Table 13 does not include surgical and orthopedic appliances
34a, c	Machinery, equipment and supplies (farm and garden)
35a	Office and store machines and equipment
41	Surgical, dental and hospital equipment and supplies

b. The selected data obtained under (a) were raised order to secure complete coverage, a procedure rendered necessary because a small portion of wholesalers' sales was not reported by commodities. At the beginning of Table 13 of the *U. S. Summary* the percentage of commodity coverage was indicated for the various kinds of establishment classified in major lines of merchandise. These percentages ranged from 72.1 for establishments dealing primarily in farm products (none elsewhere specified) to 99.3 for leather and leather goods (except gloves and shoes) establishments. The second part of Table 13 contained the commodity sales data. For each commodity group sales were given for each line of trade that dealt in the specified commodities. Thus complete coverage was obtained by the application of the commodity coverage percentages to the respective sales by the various lines of trade.

c. Sales by all types of agent and broker were next subtracted from the estimated totals for each commodity group. It was assumed that all such sales represented duplication, an assumption that perhaps overestimates the amount of duplication since some agents and brokers purchase directly from manufacturers and sell directly to retailers or to industrial and household consumers. Commodities so handled would of course not appear in the transactions of wholesalers proper. The error involved in the assumption may, however, be more than compensated by the failure to subtract sales by wholesalers proper to other wholesalers proper, an adjustment not allowed by the 1929 data.

d. The total sales figure (excl. duplication) as derived from step (c) had next to be apportioned according to type of sale, to retailers, to industrial consumers, and to household consumers. For this purpose those types of establishment dealing in the commodities studied were selected from Table 3 of the *U. S. Summary*, and grouped as follows:

MINOR COMMODITY GROUP	KINDS OF BUSINESS (AS SHOWN IN TABLE 3 OF THE U. S. SUMMARY OF WHOLESALE DISTRIBUTION) UTILIZED FOR DETERMINING THE PERCENTAGE OF SALES TO INDUSTRIAL AND HOUSEHOLD CONSUMERS
1	Bakery products Canned fruits and vegetables, canned goods (general line), canned sea foods Confectionery and soft drinks Dairy products, poultry and poultry products, dairy and poultry products Fish and sea foods Other food and grocery specialties Fruits and vegetables, fresh Groceries and food specialties (except bakery products, canned fruits and vegetables, canned goods, general line, and canned sea foods) Meat and meat products
2	Tobacco and tobacco products (except leaf) <sup>1</sup>
3	Drugs and drug sundries (general line), drugs and drug sundries specialty Toilet preparations, soaps and soap powders
4	Other paper products Stationery and stationery supplies
5a	Petroleum and petroleum products
7	Dry goods (general line) <sup>1</sup> Notions <sup>1</sup> Piece goods <sup>1</sup> Other textiles (excl. dry goods) <sup>1</sup> Yarn <sup>1</sup>

# TOTAL SPREAD IN 1929

KINDS OF BUSINESS (AS SHOWN IN TABLE 3 OF THE U. S. SUMMARY OF WHOLESALE DISTRIBUTION) UTILIZED FOR DETERMINING THE PERCENTAGE OF SALES TO INDUSTRIAL AND HOUSEHOLD CONSUMERS		KINDS OF BUSINESS (AS SHOWN IN TABLE 3 OF THE U. S. SUMMARY OF WHOLESALE DISTRIBUTION) UTILIZED FOR DETERMINING THE PERCENTAGE OF SALES TO INDUSTRIAL AND HOUSEHOLD CONSUMERS	
MINOR COMMODITY GROUP		MINOR COMMODITY GROUP	
9	Clothing and furnishings . . . (except clothing, women's and children's, clothing, secondhand, furnishings, women's and children's, and furs and fur clothing)	35b, d, e	All wholesale sales other than exports were treated as sales direct to consumers
10a	Clothing, women's and children's, and furnishings, women's and children's	39	Trucks and tractors. It was assumed that sales direct to consumers by such dealers as were classified as wholesalers were not covered in the Retail Census
10b	Furs and fur clothing	41	Professional equipment and supplies (except art supplies, church equipment and supplies, and school equipment and supplies)
11	Shoes and other footwear	42	The percentage used for estimating direct sales was taken from Table 13 of the special Census bulletin, <i>Wholesale Hardware Trade</i>
12	House furnishings	43, 44	All wholesale sales other than those for export assumed to be direct to consumers
13	Amusement and sporting goods (except moving-picture films)		
14	Tires and tubes		
15, 36	Furniture		
16	Heating equipment and supplies		
17a	Electrical appliances		
17b	Refrigerators (electric)		
18	Curtains and draperies, and floor coverings		
19	China, glassware and crockery		
20	Electrical appliances		
21	Data from special Census bulletin, Wholesale Distribution (Trade Series), <i>Radio Sets, Parts, and Accessories</i>		
22	Musical instruments and sheet music		
23	Jewelry		
24	Books and periodicals		
25	Luggage		
26	Automobiles (new and used). It was assumed that sales direct to consumers by such dealers as were classified as wholesalers were not covered in the Retail Census.		
27	Automotive equipment, and automobile parts (new)		
28	No data		
30	Optical goods		
31	No data		
32	All sales assumed direct to consumers		
33	Electrical equipment and supplies (general line), and motors and generators		
34a, c	Farm machinery and equipment		
34b	Same as for Group 34a, c		
35a	Office equipment and supplies (other than furniture)		

<sup>1</sup> Data taken from Table 2 of the U. S. Summary

Three sets of figures were then totaled: net sales, sales to industrial and other large consumers, and direct sales to ultimate consumers. Total net sales were then corrected for duplication on the basis of a percentage derived from step (c) above. Industrial and ultimate consumer sales, which of course contain no duplication, were then expressed as percentages of the corrected net sales total. Finally, these percentages were applied to the commodity sales of wholesalers as obtained from step (c). Subtraction of the resultant figure for industrial sales left a total representing all wholesale sales of finished commodities. Further subtraction of the amount of direct sales to ultimate consumers left as a remainder sales to retailers and exports.

e. For textiles a variation of the above procedure was utilized. Data were taken from Table 2 of the U. S. Summary. The net sales figure obtained therefrom required no correction for duplication because Table 2 shows sales by wholesalers only. Thus the desired percentages were calculated directly and applied to total commodity sales by wholesalers. This variation had to be used because of the large proportion of textiles sold by manufacturers to agents (see Table 1, *Distribution of Sales by Manufacturing Plants, 1929*), a factor that necessarily rendered any correction for duplication of dubious reliability.

Note B to Table III—3

## DERIVATION OF MARGINS IN WHOLESALE TRADE FOR USE IN THE MARK-UP METHOD

Unless otherwise specified, expense data were derived from Table 6, 7 of the *U. S. Summary of Wholesale Distribution*. The kinds of wholesaler generally included were: wholesalers only (all types), bulk tank stations, chain store warehouses, district and general sales offices, and manufacturers' sales branches. All agents and brokers were excluded.

For each minor group establishments handling the nearest comparable lines of merchandise were selected. The types of establishment included and the derived expense ratios are given in the table below.

The profit allowances, also given in the table below, represent the result of the following computations. First, appropriate profit ratios were obtained for as many minor groups as possible. The principal sources of data were sample groups of stores (such as the studies of the Harvard Bureau of Business Research) and an unpublished release of the Bureau of Foreign and Domestic

Commerce, *Summary of Estimated Wholesale Sales, Gross Margin, Operating Expense and Net Profit by Leading Trades*. The ratios thus assembled were added to the expense data and a hypothetical volume of wholesale sales calculated by use of the resultant margins and mark-ups. Each profit ratio was then applied to the estimated hypothetical volume of sales in the respective minor groups and an estimated total profit by wholesalers was obtained. This amounted to 2.6 per cent when expressed as a percentage of total hypothetical sales. The average profit ratio of wholesale corporations as derived from Senate Document No. 124, *National Income, 1929-1932*, Appendix B, Table 4, p. 224, was, however, only 1.1 per cent. The latter figure was accepted as being closer to the correct profit percentage than that of 2.6 derived above. Accordingly all the specific profit ratios were reduced in the proportion indicated by the two averages.



## PART III

MINOR COMMODITY GROUP	TYPES OF ESTABLISHMENT	DERIVED EXPENSE RATIO	ALLOWANCE FOR PROFIT (percentages of the volume of sales)	WHOLESALE MARGIN
1	Food products n.e.s. Groceries and food specialties	10.0	1.3	11.3
2	Tobacco and tobacco products (except leaf) (Table 2, U. S. Summary)	7.4	.6	8.0
3	Drugs and drug sundries (general line) Drugs and drug sundries (specialty) Toilet articles and preparations	18.0	.8	18.8
4	Stationery and stationery supplies	22.7	1.0	23.7
5a	Petroleum and petroleum products	14.3	.9	15.2
6a	Undertakers' supplies (Table 2, U. S. Summary)	23.8	.5	24.3
7	Dry goods (general line) Dry goods (specialty, other than specified) Notions Piece goods	11.9	1.7	13.6
9	Clothing and furnishings (other than millinery and footwear)	13.4	1.7	15.1
10a	Clothing and furnishings (other than millinery and footwear) Millinery and millinery supplies	13.8	1.7	15.5
10b	Furs and fur clothing (Table 2, U. S. Summary)	14.6	1.7	16.3
11	Shoes and other footwear	11.5	1.7	13.2
12	House furnishings	15.8	1.1	16.9
13	Amusement and sporting goods	18.0	.8	18.8
14	Tires and tubes	13.9	1.3	15.2
15, 36	Furniture	15.7	1.1	16.8
16	Heating equipment and supplies	22.0	.3	22.3
17a	Special Census report, <i>Wholesale Electrical Trade</i> , Tables 25 and 26	14.5	1.1	15.6
17b	Refrigerators (electric) (Table 2, U. S. Summary)	22.3	1.1	23.4
18	Curtains and draperies Floor coverings (Table 2, U. S. Summary)	12.4	1.1	13.5
19	China, glassware and crockery (Table 2, U. S. Summary)	24.6	1.1	25.7
20	Same as 17a	14.5	1.1	15.6
21	Special Census report on Wholesale Distribution, <i>Radio Sets and Accessories</i> , Table 12	16.0	.8	16.8
22	Musical instruments and sheet music	30.5	1.2	31.7
23	Jewelry	16.6	.7	17.3
24	Books, periodicals and newspapers	30.4	1.2	31.6

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MINOR COMMODITY GROUP	TYPES OF ESTABLISHMENT	DERIVED EXPENSE RATIO	ALLOWANCE FOR PROFIT (percentages of the volume of sales)	WHOLESALE MARGIN
25	Luggage and leather goods	22.3	.6	22.9
26	On the assumption that sales to wholesalers were sales to large dealers who also functioned as retailers no mark-up was applied. A single mark-up is applied subsequently at the retail stage	no data	no data	no data
27	Automotive equipment Automobile parts (new and used)	} 20.1	2.1	22.2
28	Estimate supplied by N. H. Engle, Wholesale Division, Department of Commerce	no data	no data	25.0
30	Optical goods	30.1	1.4	31.5
31	Granite and marble (Table 2, U. S. Summary)	18.5	.6	19.1
32	Manufacturing, mining and drilling machinery, equipment and supplies	15.1	1.0	16.1
33	Electrical equipment and supplies	8.8	.9	9.7
34a, c	Farm machinery and equipment	14.3	1.0	15.3
34b	Trucks and tractors (Table 2, U. S. Summary)	17.9	.9	18.8
35a	Commercial equipment and supplies (exporters)	15.0	1.0	16.0
35b	Automatic vending machinery (Table 2, U. S. Summary)	32.9	.4	33.3
35d	Soda fountain equipment and supplies (Table 2, U. S. Summary)	24.5	.5	25.0
35e	Approximation	no data	no data	25.0
39	Same as for group 26	no data	no data	no data
41	Professional equipment and supplies	22.1	1.2	23.3
42, 43, 44	Hardware	18.3	.7	19.0



### Table III—4

#### FINISHED COMMODITIES IN RETAIL TRADE, 1929

This table shows for 1929 the cost to retailers of finished commodities, the sales of such commodities by retailers (estimated by the volume of sales and the mark-up methods), and the total sales of finished commodities at cost to ultimate consumers. The steps in estimating retail sales by the volume of sales method are described in Note A, and the derivation of the retail margins used for the mark-up method in Note B.

Comments on this table will be found in the Preface to Part III, Sections 3 and 4.

Table III-4

## FINISHED COMMODITIES IN RETAIL TRADE

(dollar values in thousands)

Minor Commodity Group	Cost to Retailers	Sales by Retailers Shown in Census		Percentage Mark-up Shown by Comparison of (3) and (2)	Percentage Mark-up Shown by Comparison of (4) and (2)	Percentage Mark-up Derived from Other Data	Estimated Sales by Retailers	Sales by Wholesalers Direct to Ultimate Consumers	Sales by Manufacturers Direct to Ultimate Consumers	Total Cost to Ultimate Consumers (8) + (9) + (10)
		Based on Country-wide Averages	Based on Averages by States							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Perishable										
1 Food and kindred products	13,840,500	14,953,809	not calculated	8		26.1	17,452,870	96,974	682,853	18,232,697
2 Cigars, cigarettes and tobacco	1,335,466	799,691	not cal.	-		47.9	1,975,154	17,217	7,765	2,000,136
3 Drug, toilet and household preparations	1,205,216	1,392,253	not cal.	16		40.6	1,694,534	14,644	82,242	1,791,420
4 Magazines, newspapers, stationery and supplies and misc. paper products	898,504	448,454	not cal.	-		41.8	1,274,079	6,987	175,349	1,456,415
5a Fuel and lighting products, manufactured and petroleum products	1,624,578	not comparable				32.8	2,157,440	26,365	7,948	2,191,753
5b Coal	no data	965,018	1,028,884				1,205,525			1,205,525
6a Misc. perishable: caskets and coffins	99,761	228,102	not cal.	129		30.4	228,102	none	none	228,102
Total Perishable (excl. 5b)	19,004,025	17,822,309					24,782,179	162,187	956,157	25,900,523
Semidurable										
7 Dry goods and notions	1,049,561	1,548,850	1,556,328	48			1,556,328	7,226	13,641	1,577,195
9 Clothing and furnishings, men's and boys'	1,867,716	2,274,678	2,236,825	22	20	45.1	2,710,056	21,015	104,912	2,835,983
10a Clothing, women's, misses' and children's	2,597,527	3,429,929	3,561,793	32	37	46.6	3,807,975	7,324	79,310	3,894,609
10b Furs and fur goods	136,978	171,180	190,869	25	39	54.6	211,768	10,964	29,081	251,813
11 Shoes and other footwear	1,187,228	1,337,729	1,298,272	13	9	45.8	1,730,978	5,461	8,086	1,744,525
12 Miscellaneous house furnishings	476,375	505,990	567,158	6	19	39.7	665,496	8,730	73,111	747,337
13 Toys, games and sporting goods	301,899	336,284	328,086	11	9	46.6	442,452	11,459	18,250	472,161
14 Tires and tubes	449,594	611,717	539,687	22	8	43.9	718,916	4,224	1,469	724,609
Total Semidurable	8,116,788	10,216,357	10,279,018	26	27	45.9	11,843,969	76,403	327,860	12,248,232
Consumers' Durable										
15 Household furniture	899,030	1,211,527	1,249,757	35	39	56.3	1,405,184	7,660	106,761	1,519,605
16 Stoves, ranges and water heaters	197,969	191,630	196,606	-	-	78.3	352,979	11,762	140	364,881
17a Washing machines, sewing machines, etc.	140,028	231,601	226,502	65	62	65.0	226,502	2,240	5,373	234,115
17b Domestic refrigerators, mechanical	131,773	139,630	137,498	6	4	43.1	188,567	23,722	1,226	213,515
18 House furnishings (durable)	563,900	672,157	715,302	19	27	60.5	905,060	7,365	26,104	938,529
19 China and household utensils	309,599	256,411	261,068	-	-	58.0	489,166	26,788	26,238	542,192

Minor Commodity Group	Cost to Retailers	Sales by Retailers Shown in Census		Percentage Mark-up Shown by Comparison of (3) and (2)	Percentage Mark-up Shown by Comparison of (4) and (2)	Percentage Mark-up Derived from Other Data	Estimated Sales by Retailers	Sales by Wholesalers Direct to Ultimate Consumers	Sales by Manufacturers Direct to Ultimate Consumers	Total Cost to Ultimate Consumers (8) + (9) + (10)
		Based on Country-wide Averages	Based on Averages by States							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
20 Portable household electric appliances and other supplies	104,269	117,369	not cal.	13	-	62.0	168,916	2,848	8,276	180,040
21 Radio apparatus and equipment	427,719	496,718	549,917	16	29	51.7	648,850	2,147	22,739	673,736
22 Musical instruments	115,903	186,210	177,031	61	53	55.0	177,031	10,657	17,311	204,999
23 Jewelry, silverware, clocks and watches	441,637	610,150	611,986	38	39	60.5	708,827	5,888	22,210	736,925
24 Printing and publishing: books	126,190	110,631	144,730	-	15	50.8	190,295	2,670	91,219	284,184
25 Luggage	70,216	66,485	53,415	-	-	59.0	111,643	212	7,676	119,531
26 Passenger cars	2,325,921	2,873,552	3,026,846	24	30	25.0	3,026,846	346,690	17,537	3,391,073
27 Auto-parts and accessories	493,359	1,002,735	930,946	103	89	47.0	725,238	11,804	none	737,042
28 Motorcycles, bicycles and accessories	16,636	21,515	19,781	29	19	47.3	24,505	none	none	24,505
29 Pleasure-craft	9,143	10,333	not cal.	13	-	50.0	13,715	none	17,883	30,416.2
30 Ophthalmic products and surgical and orthopedic appliances	59,141	46,866	52,709	-	-	100.0	118,282	198	9,272	127,752
31 Monuments and tombstones	27,489	48,653	not cal.	77	-	77.0	48,653	14,935	39,492	103,080
Total Consumers' Durable (excl. 29)	6,450,779	8,283,840		28		47.5	9,516,544	477,586	401,574	10,395,704
Producers' Durable										
32 Industrial machinery and equipment	none									
33 Electrical appliances, industrial and commercial	47,106	26,664	not cal.	-		62.0	76,312	111,937	811,525	999,774
34a, c Farm machinery and wagons	300,294	332,323	294,090	11		22.7	368,461	43,238	85,990	497,689
34b Tractors	135,992	114,373	not cal.	-		22.1	166,046	19,061	15,218	200,325
35a Office and store equipment	97,297	161,490	158,857	66	63	60.0	158,857	8,367	86,350	253,574
35b Vending machines	none							4,491	5,749	10,240
35c Signs	none							none	113,137	113,137
35d Soda-water apparatus	none							18,868	8,474	27,342
35e Theatrical scenery	none							507	5,375	5,882
36 Office and store furniture and fixtures	incl. with Group 15									
37 Locomotives and railroad cars	none							none	356,076	356,076
38 Ships and boats	none							none	56,676	56,676
39 Business motor vehicles	351,409	450,444	388,078	28	10	23.3	433,287	79,957.2	98,157	611,401
40 Aircraft	29,928	4,335	not cal.	-		25.0	37,410	35,205	35,205	63,489.2
41 Professional and scientific equipment	46,737	70,158	69,756	50	49	49.3	69,756	74,024	49,553	193,333
42 Carpenters' and mechanics' tools	78,460	92,122	116,723	17	49	40.0	116,723	35,632	33,976	186,331
43 Durable containers	5,209	no data				38.1	7,194	33,256	83,617	124,067
44 Misc. subsidiary durable equipment.	10,713	no data				38.1	14,795	119,314	128,594	262,703
Total Producers' Durable (excl. 40)	1,073,217	1,247,574		16		31.5	1,411,431	1,707,567	3,030,477	6,149,475

TABLE III-4 (Concluded)

Minor Commodity Group	Cost to Retailers	Sales by Retailers Shown in Census		Percentage Mark-up Shown by Comparison of (3) and (2)	Percentage Mark-up Shown by Comparison of (4) and (2)	Percentage Mark-up Derived from Other Data	Estimated Sales by Retailers	Sales by Wholesalers Direct to Ultimate Consumers	Sales by Manufacturers Direct to Ultimate Consumers	Total Cost to Ultimate Consumers (8) + (9) + (10)
		Based on Country- wide Averages	Based on Averages by States							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Total Finished Commodities (excl. 5a, 5b, 35b - e, 37 and 38)	33,059,302	37,570,080		14		37.5	45,447,808			
Total Finished Commodities (excl. 5b, 29 and 40)	34,644,809					37.3	47,554,123	2,423,743	4,716,068	54,693,934
Inclusive Total, Finished Commodities							48,810,773	2,423,743	4,769,156	55,993,364 <sup>2</sup>

<sup>1</sup>Does not include data for Group 5a.

<sup>2</sup>This is not the exact total of columns (8), (9) and (10) since column (8) contains \$10,308 thousand of exports (\$1,182 thousand of Group 29 and \$9,126 thousand of Group 40). The inclusion of exports under sales by retailers resulted from the treatment of all dealers as retailers (see notes for Groups 29 and 40 in Note B to Table III-4). Consequently the value of exports had to be subtracted before actual cost to domestic ultimate consumers could be ascertained.

# TOTAL SPREAD IN 1929

Note A to Table III—4

## DERIVATION OF SALES BY RETAILERS BY MINOR COMMODITY GROUPS (COLUMNS (3) AND (4) OF TABLE III—4)

a. In deriving the estimates based on the use of national averages, the first step was the apportionment among the minor commodity groups of the commodities listed separately in the *Census of Retail Trade*. This allocation is shown in the following summary:

MINOR COMMODITY GROUP	COMMODITIES REPORTED IN THE RETAIL CENSUS
1	Bakery products; bottled beverages; confectionery and nuts; delicatessen, ready-to-serve; fresh fish and other sea food; fruits and vegetables; groceries (not reported separately); butter and cheese; eggs; lard, cooking fats, etc.; flour; sugar; canned goods and other groceries; meats, incl. poultry; poultry, reported separately; milk and cream; fountain sales—ice cream; receipts from meals; ice
2	Cigars, cigarettes; smokers' supplies
3	Prescriptions; drugs, pharmaceutical; rubber goods; drug sundries, drugs and drug sundries; toilet preparations; toiletries and cosmetics; household supplies, cleansers, etc.
4	Magazines and newspapers; paper and paper goods; stationery, books, other stationery; sheet music; photo-finishing sales
5a	Comparable data not available
5b	Coal
6a	Caskets and undertakers' supplies
7	Piece goods; cotton piece goods; linen goods; wool and wool mixed; rayons; silks and velvets; notions and small wares; other dry goods; leather goods, billfolds; custom tailoring
9	Suits, men's and boys'; overcoats, men's and boys'; hats and caps; furnishings; work clothing; all other men's and boys' clothing.
10a	Children's wear; millinery; hosiery; coats, suits; underwear, negligees, corsets; apparel and accessories, other infants' wear
10b	Furs and fur goods
11	Men's shoes; boys' and youths' shoes; women's shoes; men's and children's shoes; infants' shoes; rubber and other footwear
12	Antiques, art goods; other house furnishings; toilet articles
13	Toys and games; sporting goods, incl. gym equipment; cameras and photographic supplies; saddlery and harness
14	Tires and tubes
15	Bedroom furniture; living room furniture; dining room furniture; kitchen furniture; other household furniture; ice refrigerators
16	Ranges and water heaters
17a	Electric ironing machines; washing machines; vacuum cleaners; sewing machines
17b	Refrigerators, electric and gas
18	Draperies, etc., floor coverings; bedding, mattresses, etc.
19	China, glassware, etc; kitchen utensils
20	Portable household appliances; other household appliances and supplies; incandescent lamps
21	Radio sets; radio parts and equipment
22	Pianos, etc; phonographs; string and band instruments; all other musical instruments

MINOR COMMODITY GROUP	COMMODITIES REPORTED IN THE RETAIL CENSUS
23	Clocks; watches; diamond jewelry; rings, other than diamond; gold and gold-filled jewelry; plated silverware; sterling silverware; jewelry, silverware, costume and other
24	Books
25	Luggage; luggage and leather goods
26	Passenger cars
27	Auto parts and accessories; batteries
28	Motorcycles, bicycles and accessories
29	Pleasure-craft; boat parts and accessories
30	Optical goods
31	Monuments and tombstones
32	none
33	Electrical appliances, industrial and commercial
34a, c	Farm machinery; farm wagons; wire fencing, etc; other farm and garden machinery and equipment
34b	Tractors
35a	Adding, calculating machines and accessories; typewriters and accessories; other office and store equipment and mechanical devices
35b-e	none
36	Office and store furniture and fixtures
37	none
38	none
39	Busses; commercial cars and trucks; special purpose vehicles; commercial cars and trucks, new and used
40	Aircraft; parts and accessories
41	Professional and scientific equipment and instruments; surgical, dental and hospital supplies
42	Carpenters' and mechanics' tools
43	none
44	none

b. The next problem was to estimate the total sales of each commodity. Percentages showing the breakdown of commodity sales for the country by type of store were reported in Table 15 of the *U. S. Summary of Retail Distribution*. Such percentages, when 'consistently' reported, had merely to be applied to the total sales of the respective type of store. When a commodity was 'variously' reported, however, preliminary calculations had to be made. The total of 'variously' reported commodities for each particular type of store was shown as a single percentage; but only a percentage range (low and high percentage) was shown for the separate commodities. In such cases the geometric means of the high and low percentages for all the separate commodities were computed and then summated. If the sum was smaller than the percentage shown for all 'variously' reported commodities the geometric means as derived were used for the separate commodities and the residue percentage assigned to 'other' commodities. If the sum of the geometric means exceeded the percentage shown for all 'variously' reported commodities each geometric mean was reduced accordingly, leaving no residue for 'other' commodities.

c. The allocation and derivation of commodity sales totals described under (a) and (b) did not provide complete estimates of retail sales. For many types of store no commodity breakdown was reported. Furthermore the sales of stores covered by the classification 'miscellaneous' and the sales of country general stores had to be apportioned. The technique of allocating the sales of these stores for which no commodity data were available may be summarized as follows:



# PART III

i. Sales of stores with no commodity breakdown were either completely assigned to the most appropriate minor group or were apportioned on the basis of a sample of one or more state reports which gave a commodity breakdown for the stores in question.

ii. The sales of stores in the 'miscellaneous classification' were divided on the basis of the division of sales by kinds of store included in the 'miscellaneous classification' for the State of Ohio.

iii. On page 18 of the Retail Summary a commodity breakdown is shown for a sample of 424 country general stores. The percentages there given were applied to the sales of the three kinds of country general store. By totaling the commodity sales thus derived, a division of the total sales of country general stores was obtained. Since there remained a residual commodity group 'all other merchandise,' that item had to be further apportioned. Comparison of the division of sales derived for country general stores with that shown for general merchandise stores with food revealed a close relationship in the proportionate sales of commodities. Since the items covered by the classification 'all other merchandise' were given in detail for general merchandise stores with food, a breakdown based on this detail was applied to the similarly designated group for country general stores.

iv. The allocations obtained by use of the steps (i), (ii) and (iii) are shown in the following table:

MINOR COMMODITY GROUP	TYPE OF STORE	PERCENTAGE OF SALES ALLOCATED TO COMMODITY GROUP
1	Caterers	99.7
	Coffee, tea and spice	100.0
	Farm products	100.0
	General food	100.0
	Bottled waters	99.5
	General, groceries with apparel	61.5
	General, groceries with dry goods	67.3
	General, groceries with general merchandise	54.6
	Women's exchanges	59.4
	Box lunches	100.0
	Refreshment stands	93.5
	Soft drinks	93.5
	Miscellaneous classifications:	
	Institutional	100.0
	Livestock	100.0
	Malt products	100.0
2	General stores	1.4
	Refreshment stands	4.4
	Soft drinks	4.4
3	General stores	.8
	Costume accessories	10.5
	Miscellaneous classifications:	
	Barbers	100.0
	Beauty shops	100.0
	Chemical dealers	100.0
	Toilet articles	100.0
	Patent medicines	100.0
	Rubber goods	100.0
4	General stores	.3
	Dealers in account books, legal forms and blank books	100.0
	Paper and paper products	100.0
	Printers and lithographers	90.8
	Miscellaneous classifications:	
	Artists' supplies	100.0
	Autographs	100.0
	Blue printers	100.0
	Rubber stamps	100.0

MINOR COMMODITY GROUP	TYPE OF STORE	PERCENTAGE OF SALES ALLOCATED TO COMMODITY GROUP
6a	Miscellaneous classifications: Undertakers	100.0
7	General stores	10.9
	Women's exchanges	1.4
	Costume accessories	40.1
	Umbrellas	100.0
	Miscellaneous classifications:	
	Embroidery	100.0
	Leather and findings	100.0
	Patterns	100.0
9	General stores	6.3
	Knit goods	14.0
	Children's specialties	6.0
10a	General stores	3.9
	Women's exchanges	14.5
	Blouse shops	100.0
	Knit goods	86.0
	Costume accessories	7.5
	Children's specialties	90.0
	Dressmakers	100.0
	Infants' wear	99.7
	Mail order	100.0
11	General stores	4.5
12	General stores	.8
	Women's exchanges	14.7
	Brushes and brooms	100.0
	Picture framing	95.7
	Awnings, etc.	96.2
	Lamps and shades	97.8
	Art and gift	100.0
	Novelty and souvenir	100.0
	Miscellaneous classifications:	
	Art galleries	100.0
	Photographers	100.0
	Regalia	100.0
	Religious goods	100.0
	Janitors' supplies	100.0
	Sanitary	100.0
	Auctions	100.0
13	General stores	.3
	Toy shops	98.9
	Athletic and playground	99.0
	Blacksmith	100.0
	Concessions	100.0
	Harness shops	89.8
15	General stores	.3
17b	Refrigerators, gas and electric	98.9
18	General stores	1.4
19	General stores	1.4
	Aluminum ware	100.0
	Miscellaneous classifications:	
	Hotel supply	100.0
21	General stores	.5
23	Costume accessory	41.9

# TOTAL SPREAD IN 1929

MINOR COMMODITY GROUP	TYPE OF STORE	PERCENTAGE OF SALES ALLOCATED TO COMMODITY GROUP
24	Circulating libraries	90.9
25	General stores	.1
28	Bicycles, motorcycles and accessories	94.2
	Bicycle shops	82.9
30	Miscellaneous classifications:	
	Artificial limbs	100.0
34a, c	Irrigation and drainage equipment	82.2
	Farmers' supplies	99.0
	General stores	.4
36	Store fixtures	98.9
42	Miscellaneous classifications:	
	Locksmith	100.0
	Machinery dealer	100.0

d. Since the national averages used above are unweighted, a more accurate estimate of commodity sales can be obtained by using state data. In essence, the procedure followed is similar to that described above except that state figures are utilized. Not all states, however, reported commodity data in the same detail. In such cases, when it was evident that a certain type of store sold a given commodity, the percentage for similar stores in an adjoining or nearby state was used. If no data were shown for a nearby state, the median of percentages for those states which did report commodity data for that type of store was applied to the net sales of such stores in the state in question. A minor variation of this last procedure was the use of a weighted arithmetic mean of percentages in place of a median.

The estimates on the basis of the state reports appear in column 4 of Table III—4. Although the procedure was not used for all the minor groups, it was used for a number sufficient to reveal differences in the results of the two methods.

Note B to Table III—4

## DERIVATION OF MARGINS IN RETAIL TRADE FOR USE IN THE MARK-UP METHOD

Expense data were obtained from Table 2A of the *U. S. Summary of Retail Distribution*. For each minor group the types of store handling the nearest comparable lines of merchandise were chosen. The table below shows both the selected types of store and the corresponding expense ratios.

The table also shows the allowance for profit in each group. This allowance was based on a technique similar to that described in Note D to Table III—3. First, profit ratios were obtained from various sources, notably sample studies such as those of the Harvard Bureau of Business Research and of the Federal Trade Commission, and an unpublished release of the Bureau of Foreign and Domestic Commerce, *Summary of Estimated Net Retail Sales, Gross Margin, Operating Expenses, and Net Profit by Leading Trades*. An average profit ratio of 3.2 per cent was ultimately derived. The average profit ratio of retail corporations given in Senate Document 124, *National Income, 1929-1932*, Appendix B, Table 4, p. 224, was, however, only 1.6 per cent. This was accepted as a better approximation than the 3.2 per cent derived above. Consequently all the group profit ratios as originally computed were lowered in the proportion indicated by the two averages.

MINOR COMMODITY GROUP	TYPE OF STORE	DERIVED EXPENSE RATIO (percentages of volume of sales)	ALLOW- ANCE FOR PROFIT (percentages of volume of sales)	RETAIL MARGIN
1	Food group	19.5	1.2	20.7
2	Cigar stores and cigar stands	31.4	1.0	32.4
3	Drug stores	27.1	1.8	28.9
4	News dealers Paper and paper products stores Stationers and engravers	29.0	.5	29.5
5a	Filling stations—gasoline and oil	23.7	1.0	24.7

MINOR COMMODITY GROUP	TYPE OF STORE	DERIVED EXPENSE RATIO (percentages of volume of sales)	ALLOW- ANCE FOR PROFIT (percentages of volume of sales)	RETAIL MARGIN
7	General merchandise group	26.8	no data	
9	Men's and boys' clothing and furnishings stores	28.9	2.2	31.1
10a	Family clothing stores Women's ready-to-wear, specialty stores Women's accessories stores (except furriers, costume accessories stores, and umbrella shops)	30.2	1.6	31.8
10b	Furriers	33.8	1.5	35.3
11	Shoe stores	29.4	2.0	31.4
12	General merchandise group	26.8	1.6	28.4
13	Toy shops Camera dealers Sporting goods stores	30.3	1.5	31.8
14	Tire shops	29.0	1.5	30.5
15, 36	Furniture stores	31.0	5.0	36.0
16	Heating appliance and oil burner dealers	43.5	.4	43.9
17a	Household appliance stores	36.5	no data	
17b	Refrigerator dealers	26.9	3.2	30.1

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MINOR COMMODITY GROUP	TYPE OF STORE	ALLOW-			MINOR COMMODITY GROUP	TYPE OF STORE	ALLOW-		
		DERIVED EXPENSE RATIO	ANCE FOR PROFIT	RETAIL MARGIN			DERIVED EXPENSE RATIO	ANCE FOR PROFIT	RETAIL MARGIN
		(percentages of volume of sales)					(percentages of volume of sales)		
18	Floor coverings, drapery, curtains, and upholstery stores	32.7	5.0	37.7		tion. Total sales to consumers do not equal sales by retailers (dealers) plus direct sales by manufacturers because of the subtraction of the value of exports, \$1,182 thousand			
19	China, glassware, crockery, tinware, enamelware dealers	35.1	1.6	36.7					
20	Same as 17a (margin shown by volume-of-sales method used)						no data		33.3
21	Radio and music stores	33.1	1.0	34.1	30	Opticians and optometrists Scientific and medical instruments and supply dealers (approximation)			50.0
22	Music stores (without radio) Radio and musical instrument stores	36.8	no data		31	Monument and tombstone works	41.9	1.6	43.5
23	Jewelry stores	35.5	2.2	37.7	33	Same as 17a (margin shown by volume-of-sales method used)			
24	Book stores	32.5	1.2	33.7	34a, c	Farm implement, machinery and equipment dealers	17.0	1.5	18.5
25	Luggage and leather goods stores	35.0	2.1	37.1	34b	Automobile dealers with farm implements and machinery	16.2	1.9	18.1
26	Automobile sales rooms	17.7	no data		35a	Office, school, and store supply and equipment dealers	34.3	no data	
27	Accessory stores with tires and batteries	28.3	no data		39	Automobile sales rooms	17.7	1.2	18.9
28	Motorcycle dealers Bicycle, motorcycle, and supply stores	30.9	1.2	32.1	40	For convenience all aircraft dealers were treated as retailers (no precise distinction between wholesale and retail dealers having been possible). The mark-up utilized was based on data supplied by the Aeronautical Chamber of Commerce. Total sales to consumers do not equal sales by retailers (dealers) plus direct sales by manufacturers because of the subtraction of the value of exports, \$9,126 thousand			20.0
29	For convenience, all pleasure-craft dealers were treated as retailers (in actuality, some also perform wholesale functions, but no data were available on which to base a distinction). The mark-up utilized is based on that reported by a prominent dealer in speedboats, and can be termed only an approxima-				41	Scientific and medical instruments and supply dealers	31.4	1.6	33.0
					42	Hardware stores	26.6	1.0	27.6
					43, 44	Hardware stores	26.6	1.0	27.6

Table III—5

TOTAL SPREAD BETWEEN VALUES OF FINISHED COM-  
MODITIES AT PRODUCERS' PRICES AND AT COST  
TO ULTIMATE CONSUMERS, MINOR  
COMMODITY GROUPS, 1929

This table recapitulates the results of the analysis in Part III. It shows for 1929 the total spread between the values of finished commodities, destined for domestic consumption, at producers' prices and at final cost to ultimate consumers; as well as the distribution of this spread among transportation charges, wholesale margins and retail margins.

Comments on this table will be found in the Preface to Part III, Section 5.

Table III.5

## TOTAL SPREAD BETWEEN PRODUCERS' PRICES AND COST TO CONSUMERS

(dollar values in thousands)

Minor Commodity Group	Method Used in Estimating Distributive Margins		Value of Commodities Destined for Domestic Consumption at Producer's Prices (excl. transportation charges)	Total Cost to Consumers	Percentage of (4) to (5)	Total Spread as Percentage of Final Cost (5) - (4)	Distribution of Total Spread (percentage of final cost)		
	Wholesale	Retail					Separable Transportation Charges	Margin in Wholesale Trade	Margin in Retail Trade
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<b>Perishable</b>									
1 Food and kindred products	M	M	12,391,985	18,232,697	68.0	32.0	5.7	6.5	19.8
2 Cigars, cigarettes and tobacco	M	M	1,243,642	2,000,136	62.2	37.8	1.6	5.2	32.0
3 Drug, toilet and household preparations	M	M	1,075,868	1,791,420	60.1	39.9	3.0	9.6	27.3
4 Magazines, newspapers, stationery and supplies, and misc. paper products	M	M	956,412	1,456,415	65.7	34.3	1.0	7.5	25.8
5a Fuel and lighting products, manufactured and petroleum products	M	M	1,241,643	2,191,753	56.7	43.3	9.6	9.4	24.3
5b Coal	-	-	412,250	1,205,525	34.2	65.8		no data	
6a Misc. perishable: caskets and coffins	M	V	85,174	228,102	37.3	62.7	2.2	4.2	56.3
Total Perishable			17,406,974	27,106,048	64.2	35.8			
Total Perishable (excl. 5b)			16,994,724	25,900,523	65.6	34.4	5.2	6.9	22.3
<b>Semidurable</b>									
7 Dry goods and notions	M	V	945,297	1,577,195	59.9	40.1	1.2	6.8	32.1
9 Clothing and furnishings, men's and boys'	M	M	1,825,888	2,835,983	64.4	35.6	1.9	4.0	29.7
10a Clothing, women's, misses' and children's	M	M	2,487,580	3,894,609	63.9	36.1	1.9	3.1	31.1
10b Furs and fur goods	V	M	160,663	251,813	63.8	36.2	1.9	4.6	29.7
11 Shoes and other footwear	M	M	1,081,922	1,744,525	62.0	38.0	1.9	4.9	31.2
12 Misc. house furnishings	M	M	501,870	747,337	67.2	32.8	2.0	5.5	25.3
13 Toys, games and sporting goods	M	M	279,736	472,161	59.2	40.8	1.8	9.2	29.8
14 Tires and tubes	M	M	437,821	724,609	60.4	39.6	1.2	8.1	30.3
Total Semidurable			7,720,777	12,248,232	63.0	37.0	1.8	4.8	30.4
<b>Consumers' Durable</b>									
15 Household furniture	M	M	626,224	1,127,026	55.6	44.4	2.8	41.6	42.5
16 Stoves, ranges and water heaters	M	M	185,037	364,881	50.7	49.3	1.0	5.8	26.9
17a Washing machines, sewing machines, etc.	M	V	135,141	234,115	57.7	42.3	1.2	4.2	26.6
17b Domestic refrigerators, mechanical	M	M	118,454	213,515	55.5	44.5	1.1	16.8	36.4
18 House furnishings (durable)	M	M	533,544	938,529	56.8	43.2	1.7	5.1	33.1
19 China and household utensils	M	M	278,408	542,192	51.3	48.7	5.1	10.5	35.9
20 Portable household electric appliances and other supplies	M	M	99,611	180,040	55.3	44.7	1.7	7.1	32.8
21 Radio apparatus and equipment	M	M	366,004	673,736	54.3	45.7	2.7	10.2	29.8
22 Musical instruments	M	V	113,724	204,999	55.5	44.5	2.8	11.9	36.3
23 Jewelry, silverware, clocks and watches	M	M	402,699	736,925	54.6	45.4	1.6	7.5	

TABLE III-5 (Concluded)

Minor Commodity Group	Method Used in Estimating Distributive Margins		Value of Commodities Destined for Domestic Consumption at Producers' Prices (excl. transportation charges)	Total Cost to Consumers	Percentage of (4) to (5)	Total Spread as Percentage of Final Cost (5) - (4)	Distribution of Total Spread (percentage of final cost)		
							Separable Transportation Charges	Margin in Wholesale Trade	Margin in Retail Trade
	Whole-sale	Retail							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
24 Printing and publishing: books	M	M	192,280	284,184	67.7	32.3	2.0	7.5	22.6
25 Luggage	M	M	70,282	119,531	58.8	41.2	1.8	4.7	34.7
26 Passenger cars	M	V	2,566,950	3,391,073	75.7	24.3	3.3	21.0	
27 Auto-parts and accessories	M	M	407,584	737,042	55.3	44.7	.6	12.6	31.5
28 Motorcycles, bicycles and accessories	M	M	14,593	24,505	59.6	40.4	1.8	6.5	32.1
29 Pleasure-craft	-	M	26,238	30,416	86.3	13.7		no data	
30 Ophthalmic products and surgical and orthopedic appliances	M	M	52,114	127,752	40.8	59.2	1.2	11.7	46.3
31 Monuments and tombstones	M	M	63,635	103,080	61.7	38.3	9.9	7.9	20.5
Total Consumers' Durable			6,252,522	10,033,541	62.3	37.7			
Total Consumers' Durable (excl. 29)			6,226,284	10,003,125	62.2	37.8	2.6	35.2	
Total Consumers' Durable (excl. 15 and 29)			5,600,060	8,876,099	63.1	36.9	2.6	5.5	28.8
Producers' Durable									
32 Industrial machinery and equipment	M	-	2,017,154	2,250,925	89.6	10.4	1.8	8.6	-
33 Electrical appliances, industrial and commercial	M	M	936,597	999,774	93.7	6.3	1.9	1.5	2.9
34a, c Farm machinery and wagons	M	M	373,235	497,689	75.0	25.0	2.2	9.1	13.7
34b Tractors	M	M	147,351	200,325	73.6	26.4	2.2	9.2	15.0
35a Office and store equipment	V	V	187,039	253,574	73.8	26.2	1.5	.4	24.3
35b Vending machines	M	-	8,573	10,240	83.7	16.3	1.7	14.6	-
35c Signs	-	-	113,137	113,137	100.0	0.0	0.0	-	-
35d Soda-water apparatus	-	-	22,172	27,342	81.1	18.9	1.6	17.3	-
35e Theatrical scenery	M	-	5,481	5,882	93.2	6.8	4.7	2.1	-
36 Office and store furniture and fixtures	M	M	288,661	392,579	73.5	26.5	3.7	22.8	-
37 Locomotives and railroad cars	-	-	356,076	356,076	100.0	0.0	0.0	-	-
38 Ships and boats	-	-	56,676	56,676	100.0	0.0	0.0	-	-
39 Business motor vehicles	-	M	510,829	611,401	83.6	16.4	2.5	13.9	-
40 Aircraft	-	M	55,988	63,489	88.2	11.8	2.6	9.2	-
41 Professional and scientific equipment	M	V	141,830	193,333	73.4	26.6	2.2	12.5	11.9
42 Carpenters' and mechanics' tools	M	V	124,577	186,331	66.9	33.1	2.0	10.6	20.5
43 Durable containers	M	M	110,359	124,067	89.0	11.0	4.4	5.0	1.6
44 Misc. subsidiary durable equipment	M	M	229,039	262,703	87.2	12.8	2.6	8.6	1.6
Total Producers' Durable			5,684,774	6,605,543	86.1	13.9			
Total Producers' Durable (excl. 40)			5,628,786	6,542,054	86.0	14.0	2.0	12.0	5.5
Total Producers' Durable (excl. 36 and 40)			5,340,125	6,149,475	86.8	13.2	1.9	5.8	
Inclusive Total, Finished Commodities			37,065,047	55,993,364	66.2	33.8			
Total Finished Commodities (excl. 5b)			36,652,797	54,787,839	66.9	33.1	3.6	29.5	
Total Finished Commodities (excl. 5b, 29 and 40)			36,570,571	54,693,934	66.9	33.1	3.6	5.9	23.6

M represents the mark-up method, V the volume of sales method.

